Hercules wrestling with & crushing Antæus, son of Neptune.

PHYSICAL EDUCATION

AND

MEDICAL MANAGEMENT OF CHILDREN.

FOR

THE USE OF FAMILIES AND TEACHERS.

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PREFACE.

Books on the subject of health and physical education, are so numerous, that the appearance of another might appear to be useless, only for the fact that much want of information and interest in these important branches of science, still prevail in every community. The author of the present work has aimed at simplicity and plainness, in treating briefly upon such topics as in his judgment are most useful and practical. A short chapter upon the anatomy and physiology of some of the most important parts of the system, seemed indispensable.

It is the misfortune of medical science, that its language cannot always be made as plain as would be desirable,—this has been obviated as much as possible, so that a subject already difficult, might not be rendered obscure also. A brief description of the diseases most common to childhood has been given: their

treatment however, has only in a few cases been indicated,—it being thought best for the public, not to encourage them in so dangerous an enterprise as that of tampering with fearful diseases, nor to put into their hands the means of doing so much mischief as must result from such a practice. Remarks on the preservation of health and the development of the physical powers, have been made as fully as limits would admit. Among the well known authorities consulted, are, Wilson, Dunglison, Druitt, Pereira, Eberle, Condie, Alison, and Watson. With no claims to public favor, beyond the merit of the book, the author solicits their co-operation, in carrying out practically the truths of the most important of all sciences,—*the science of human life.*

M. M. RODGERS.

Rochester, Sept. 16th, 1847.

INTRODUCTION.

"KNOW THYSELF," was written in golden capitals on the temple at Delphos, as a maxim worthy to be transmitted to coming ages. Man has always been a profound mystery to himself: from the time when the dim and distorted rays of science first began to glimmer through the mists of barbarism and ignorance, up to the present, philosophers have been studying the nature and destination of man's physical, as well as mental and moral, powers.

Since the time when the giant minds of Galen and Aristotle, began to mould the then existing chaos into something like a system, the science of medicine has been rapidly advancing. And although the anatomy and physiology of the human system are now somewhat well understood, still when we turn our thoughts inward upon ourselves, we are constrained to say with the psalmist, "I am fearfully and wonderfully made."

Among the ancients the most profound superstitions and absurd dogmas were propagated in relation to the healing art. Oracular sayings were delivered, mysterious rites were performed, and senseless jargon repeated over the bodies of sick persons, for the purpose of healing their maladies and expelling evil spirits. Men who had grown old in the study of philosophy, who had breathed an atmosphere saturated with learning for half a century within the cloister, treasured up these blasphemies as the result of inspiration: learned doctors too, were often found humbly asking knowledge of some half-idiotic impostor who was said to be "born with a veil over his face." The dissection of a human body would have been sacrilege, and the only facility allowed for the study of anatomy, was that of examining the unburied bones of cemeteries. Diseases were supposed to be caused by the wrath of the gods, or the ravings of some evil spirit within the body,—and their cure was entrusted to worthless herbs and the power of magic. The most extravagant errors prevailed in relation to the uses of the various parts of the system: the lungs were supposed to be two bags of wind intended merely to keep the heart cool: the brain was supposed to be a sponge to absorb the superfluous moisture of the body: the heart was considered the fountain from which all the blood issued every morning and returned again at evening: the liver was

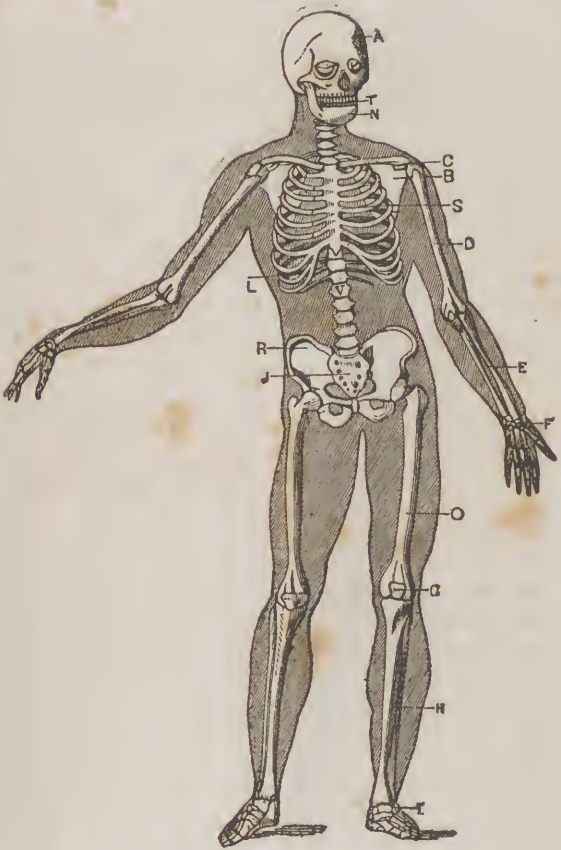
supposed to be a laboratory where the blood was manufactured : to the stomach was assigned the office of a brewer's tub, where the food was fermented, and then distilled through the system : a certain projection within the skull was likened to a saddle, on which the soul sat astride. Upon ideas as rational as these, learned men constructed some of the strangest theories that ever beset the fancy of man. When this whole system of philosophy was completed, these sages rested from their labors, and their doctrines held despotic sway for centuries.

But through the labors of such minds as those of Hunter, Magendie, Laennec and Liebig, we are privileged to live in a more propitious age. The mazy labyrinths of this mysterious machine, have been surveyed in all their windings, and their uses and structure ascertained. By the aid of the microscope, the pathologist has searched out the hidden springs of disease, and discovered the lurking places of almost "all the ills that flesh is heir to." The labors of the chemist have demonstrated the curative powers of countless substances from the animal, vegetable and mineral kingdoms.

Although the most prominent errors, in relation to the science of medicine have been consigned to the lasting shades of oblivion, and a system of philosophy

reared, worthy of the name, still a general knowledge of the laws of life and health form no part of a popular system of education. Even the most intelligent portion of every community, are not sufficiently impressed with the importance of self-knowledge, and their bodies daily suffer from the influence of causes which tend to destroy health and shorten life.

The study of our own natures is perhaps the most elevating and ennobling subject which can engage the mind: no one but the veriest idiot or the rankest atheist, can contemplate his own beautiful and harmonious organization, without being constrained to acknowledge the existence of an all-wise creative Power, superior and antecedent to himself. What parent can doubt, it is as much his duty to train, develope and preserve all the physical powers of his children, as to educate their minds or teach them the truths of religion? Instead of indulging them in habits of excess, and ministering to their unholy desires, which cause effeminacy and disease,—they ought to deem it as much a part of their sacred charge to promote their physical health and happiness in this life, as to prepare their spirits for the fruition of a happy immortality.



OSSEOUS OR BONY SYSTEM.

DESCRIPTION OF PLATE I.

OSSEOUS OR BONY SYSTEM.

This plate shows all the bones of the body in their natural position, the soft parts having been removed : the dark shading of the back ground is merely an outline of the body.

A.	The skull—8 bones—face 14,	22
T.	The teeth—in the adult,	32
N.	Lower jaw bone,	1
C.	Collar bones,	2
B.	Shoulder blades,	2
S.	Breast bone,	1
D.	Arm bones,	2
E.	Bones of forearm,	4
F.	Bones of wrist and hand,	54
O.	Bones of thigh,	2
G.	Knee pans,	2
H.	Bones of leg,	4
J.	Bones of foot,	52
L.	Ribs,	24
R.	Pelvis or hip bones,	2
J.	Sacrum,	1
V.	Vertebræ or back bones	24

PHYSICAL EDUCATION,

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CHAPTER 1.

ANATOMY AND PHYSIOLOGY.

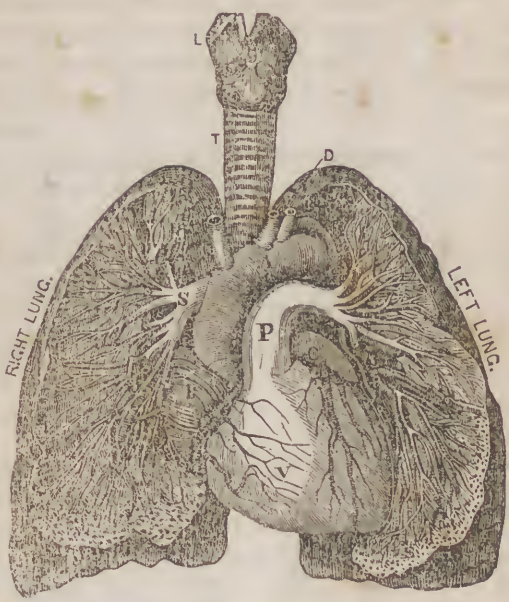
Anatomy treats of the formation and structure of living beings: it makes us acquainted with the position, form, size and relation of all parts of the system.—*Physiology* treats of the life and functions of living beings: it teaches the uses of the different parts of the body, the manner in which they act, the relation they bear to each other, and to the whole system. All living bodies are composed of both solid and liquid substances. *Organized* bodies, are those which are made up of a number of organs or parts, each having some specific office to perform. The human system is composed of bones, muscles, blood vessels, nerves, ligaments, glands and cellular tissue, so combined as to constitute it an organized body. The *skeleton* is the solid bony frame, upon which all other parts of the system are built, and depend for their general form and support. It consists

of about two hundred and fifty-two bones of various forms and sizes so connected at the joints as to give sufficient firmness and motion to the body. They are composed of lime and some other earthy matters, blood and cartilege. *Muscles* are the lean red flesh of animals, possessed of contractile power, and together with the bones, form the locomotive system. The *nerves* are white cords which proceed from the brain and spinal cord to all parts of the body. The nervous system is that by which we feel, see, hear, smell, taste, think and perform voluntary motion, and all other operations peculiar to animal life. The *blood vessels* are elastic tubes of various sizes, which contain and circulate the blood through all parts of the system. The *arteries* are more elastic, and are filled with the vermilion colored blood which comes from the heart: the *veins* are more numerous, less elastic, and larger than the arteries: they contain the dark blood which returns to the heart. The *glands* are irregular rounded bodies of various sizes and colors, in which all the secretions of the system are performed. The *ligaments* are strong white cords which bind the bones together at the joints, and also hold the various organs in their places. The *cartilage*, (grizzle,) is a yellowish elastic substance, covering the ends of the bones at the joints, so as to prevent them from being injured by sudden shocks.—The *bursa* are little bags of fluid, (joint-water,) placed

about the joints to moisten and lubricate them. The *tendons* are yellowish cords and bands at the ends of muscles, where they are attached to the bones.

The *membranes* are a thin, dense, smooth skin, which cover the viscera of the body, and line their cavities. The *viscera* are all the organs within the chest and abdomen.

The *hair*, *nails*, and *cuticle* are a hornlike substance, without nerves, blood vessels or vitality. The *blood* is a living organized fluid, composed of water, animal and mineral matter,—it derives its color from the iron which it contains. The rest of the *fluids* are mainly water combined with animal and mineral matters: they are the *bile*, *urine*, *saliva*, *tears*, *gastric-juice*, *mucus*, *perspiration*, *&c.*



ORGANS OF RESPIRATION.

ORGANS OF RESPIRATION.

The apparatus by which respiration is formed, consists of the lungs, windpipe, diaphragm, and muscles of the chest. The lungs are two conical shaped bodies, suspended in the chest and separated by a thin mem-

DESCRIPTION OF PLATE II.

HEART AND LUNGS.

This plate shows the larynx, windpipe, heart and lungs, and the large vessels by which they are connected.

L. Larynx, or vocal box—the organ in which the voice is formed.

T. The trachea or windpipe connecting the larynx to the lungs.

A. The aorta, or great artery of the heart, arising from the left ventricle.

P. Pulmonary artery, or artery of the lungs: this artery arises from the right ventricle of the heart and divides into two branches, one going to each lung.

C. Left auricle of the heart.

R. Right auricle.

E. Air cells of the lungs.

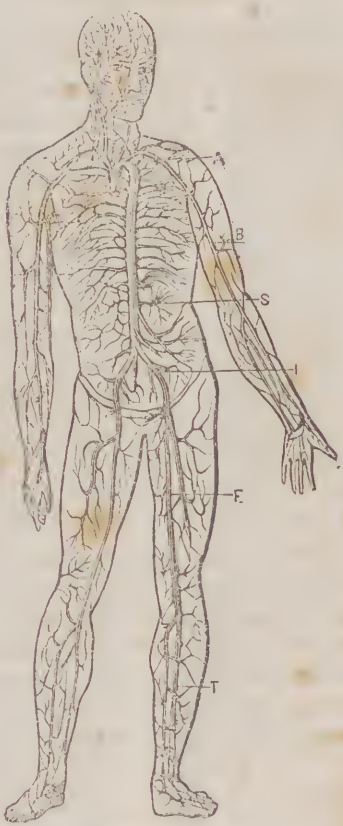
B. A portion of lung covered by the pleura.

D. The cut ends of arteries going to the head.

S. Small branches of the right pulmonary artery,—a portion of each lung having been cut away to show these branches and the air cells.

branous partition, which divides the chest into a right and left cavity. The heart is between the two lungs, a little to tho left side of the chest, and nearly in contact with the breast bone. The lungs are composed mainly of blood vessels and air cells: the air cells are formed by the branching of the air tubes, which divido into numerous small tubes like the branches of a tree, and finally terminate in minute cells with thin shining walls. In a state of health the air cells in all parts of the lungs fill with air during inspiration, and the lungs, together with the heart entirely fill the chest.

A healthy lung is of a pinkish gray color spotted with purple, and when cut has the appearanco of sponge. The veins and arteries run through all parts of the lungs, dividing and becoming smaller and smaller like the air tubes, until too minute to be seen by tho naked eye. The lungs are supplied with nerves, and small glands, and are covered by a mombrano called the pleura. The *windpipe* is a tube composed of flesh and rings of cartilage, beginning at the top of tho throat and terminating at the lungs. The *diaphragm* is a thin muscular partition, attached to the back bone, lower ribs and breast bone, crossing the body nearly horizontally and dividing it into the chest and abdomen.



ARTERIAL SYSTEM.

ORGANS OF CIRCULATION.

The apparatus which contains and circulates the blood, consists of the heart, arteries, veins and capillaries. The *heart* is a hollow muscle about the size in each person, of his own fist : it has four cavities called auricles and ventricles,—one auricle and one ventricle on each side. On the right side, attached to the auricle, are the two large veins which return the blood from all parts of the body into the heart : from the right ventricle, an artery runs to the lungs : the left auricle is also connected with the lungs by means of veins ; from the left ventricle arises the largest artery of the body, the branches of which supply the whole system with blood. The *capillaries* are small vessels which connect the veins and arteries at their extremities, and are too small to be seen by the naked eye.

DESCRIPTION OF PLATE III.

ARTERIAL SYSTEM.

This plate is designed to show the arteries only,—the veins, nerves and viscera having been removed.

A. Aorta cut from the heart, showing its branches going to all parts of the body.

B. Brachial, or artery of the arm.

S. Small branches supplying the viscera of the abdomen.

I. Iliac arteries, or arteries of the pelvis.

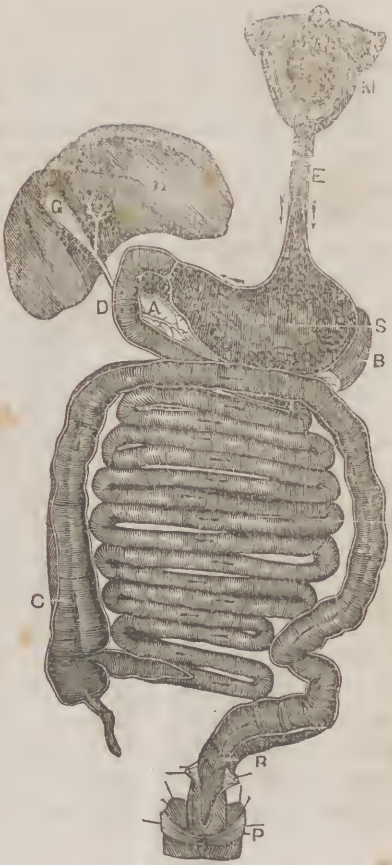
F. Femoral, or artery of the thigh.

T. Tibial, or arteries of the leg.

ORGANS OF DIGESTION.

[See plate 4, page 26.]

The digestive apparatus consists of many different organs, only part of which can be described. The *stomach* is a somewhat pear shaped hollow organ or sac, lying across the abdomen, connected at one end to the mouth by a muscular tube called the *œsophagus*,—and at the other end to the small intestine. The walls of the stomach are thin, and composed of three layers or coats,—viz., an outside membranous, a middle muscular, and an inside mucus coat. The *bowels* consist of a tube composed of three coats like the stomach; they are the smallest where they join the stomach, and largest at the other extremity, and usually about four or five times the length of the body. The *liver* is a solid, reddish gland, suspended in the right side of the abdomen, in contact with the diaphragm and small end of the stomach, and connected by vessels to the bowels: it is the largest gland in the body,—in the adult it usually weighs from three to five pounds: the principal use of the liver is to secrete the bile. The *gall bladder* is attached to the under surface of the liver, and serves as a reservoir for a part of the bile, while the rest passes into the small bowel near the stomach. The spleen is a reddish glandlike body, about two inches wide and four or five in length, lying on the left side of the stomach, and attached to it by means of vessels: it is



DIGESTIVE ORGANS.

supposed to assist in the process of digestion. The *pancreas* is a grayish gland lying behind the stomach and

DESCRIPTION OF PLATE IV.

DIGESTIVE ORGANS.

The plate shows the relative size and form of the digestive apparatus.

The liver is raised up from its natural position in order to show the gall bladder and duodenum. The small intestine is folded in a more regular manner than when in its natural position, in order to show the relative length of itself to the large intestine.

M. Mouth, showing the tongue and half arches of the palate.

E. Œsophagus or meat pipe uniting the stomach and mouth.

S. Stomach, united by its small end to the duodenum,—the end of the small bowel

I. Ilium or small intestine.

L. Liver, showing its concave or lower side : in its natural position, it lies over the small end of the stomach, colon, and duodenum.

G. Gall bladder, lying on the concave side of the liver.

D. Mouths of the bile and pancreatic ducts coming from the liver and pancreas, and opening into the duodenum.

P. Sphincter muscles at the end of the bowels.

B. Spleen attached to the stomach.

C. Colon or large intestine, in natural form.

R. Rectum or end of the bowel.

A. Pancreas, lying behind the stomach.

connected by its duct to the small intestine at the same place where the bile duct enters it,—supposed to furnish a fluid which together with the bile performs some part in digestion. The viscera both of the chest and abdomen are covered by a thin delicate membrane, which is slightly moistened in a healthy condition, to prevent friction and enable the parts to glide smoothly over each other during their own movements or those of the body. They are all abundantly supplied with vessels and nerves, and are retained in their positions by their vessels and ligaments and the walls of the body.

RESPIRATION.

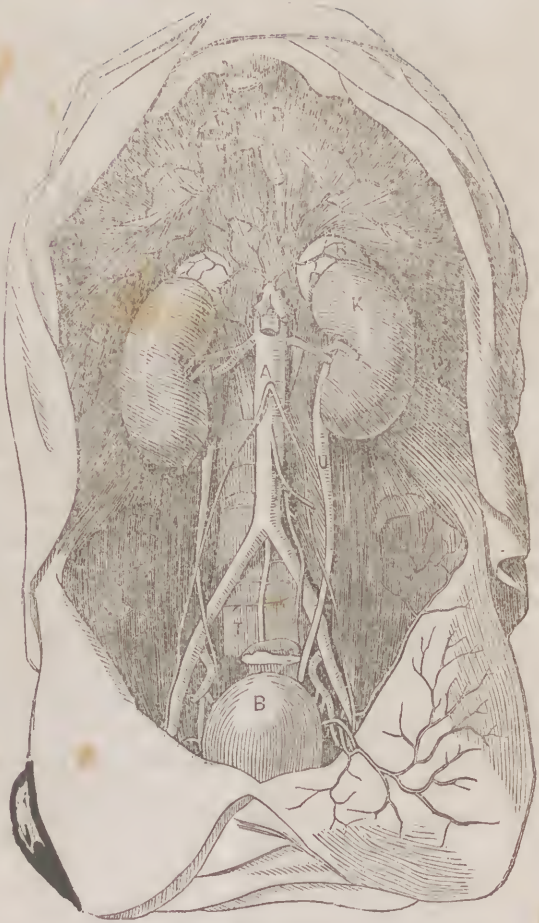
The object of respiration is, to give the system a constant supply of pure fresh air; the blood in its course through the system, loses oxygen gas and takes in carbon, and is thus rendered impure, and unfit to nourish the system. When the air is taken into the lungs it comes in contact with the dark blood of the veins of the lungs,—this blood contains carbonic acid gas which it gives off, and takes from the air in its place oxygen gas,—the instant this change is made the dark blood is changed to a bright red, and is again fit to circulate through the body. The carbon from the dark blood is carried out of the lungs at each respira-

tion, and oxygen taken in at each inspiration; so that breathing is a means of purifying the blood, as well as supplying the proper stimulus to the nervous system. Every breath relieves the system of a gas in which no animal can live, and supplies to it a gas without which no plant or animal can exist. In the adult about twenty respirations are performed in a minute,—in children they are much more frequent. The lungs are never entirely filled at a single inspiration, nor emptied at a single expiration. During inspiration, the cavity of the chest is enlarged by the contraction of the diaphragm and the muscles of the chest,—during expiration the muscles relax, the ribs and breast bone are depressed, and the cavity of the chest is thus diminished so as to force out part of the air from the lungs. Laughing, singing, coughing, yawning, &c. are all modifications of respiration.

CIRCULATION.

One object of circulation is, to bring the blood in contact with the air in the lungs, as just described,—another object is, to furnish all parts of the system with pure arterial blood, by which alone, it is nourished. In man and all air breathing animals the heart is the centre of circulation, and the instrument by which the blood is propelled through the system. The heart in

man is double,—a right and a left heart: fishes have only a single heart. The right heart circulates the blood through the lungs, and the left heart propels it through the arteries to all parts of the body. The course of the blood, beginning at the right side and top of the heart, is as follows: the two large veins, one from the upper and one from the lower half of the body, pour their blood into the right auricle, which contracts and sends it into the right ventricle,—this contracts and sends it into the lungs through the pulmonary artery,—after passing through the lungs and being changed by the air, it is returned through four veins into the left auricle, which contracts and sends it into the left ventricle, which also contracts and throws it into the *aorta*, or great artery, and from thence it passes along its numerous branches to all parts of the body to be again returned by the veins. In passing through the different parts of the heart, the blood is prevented from flowing backwards, by means of little valves which open like gates to let it pass, and then close again at each contraction to prevent its return. The heart continues to pulsate, and the blood to travel its successive rounds, from the first moment of existence to the latest period of life,—the heart is the first part formed and the last which dies.



URINARY ORGANS.

DIGESTION.

Digestion comprises all the changes which food undergoes from the time it is taken into the mouth, until it is converted into arterial blood. The first act of digestion is mastication: the presence of food excites a flow of saliva from the glands of the mouth, which mingles with it and prepares it for swallowing.

When the food is thus prepared there is an involuntary desire to swallow,—the muscles of the throat contract and the mass is forced down the esophagus into the stomach.

DESCRIPTION OF PLATE V.

URINARY ORGANS.

This plate shows the diaphragm and urinary organs,—the digestive organs having been removed. The kidneys lie in the loins, one on each side of the spine.

D. Diaphragm, dividing the body into the chest and abdomen.

K. Kidneys, receiving arteries from the aorta.

A. Aorta and its branches, going to the lower half of the body.

U. Ureters, or tubes to convey the urine from the kidneys to the bladder.

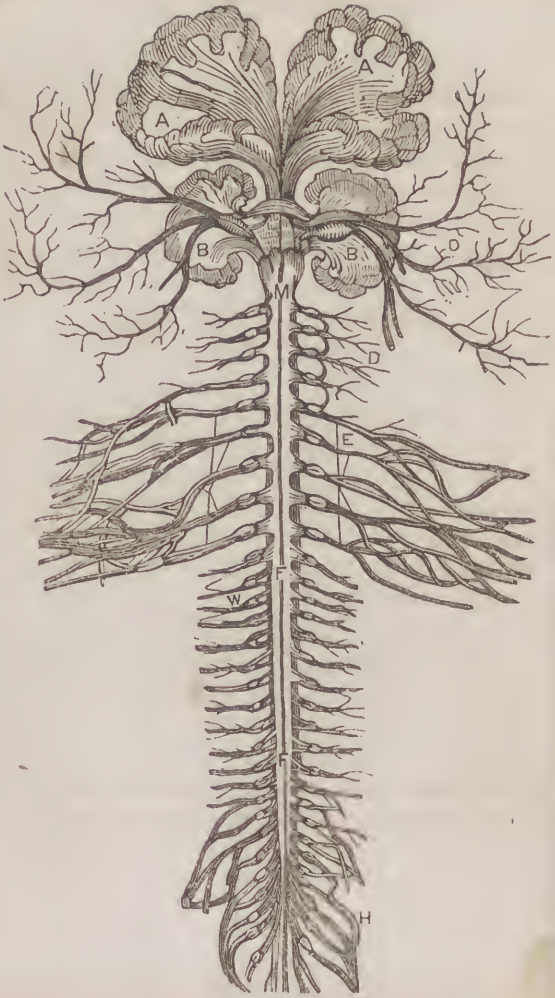
T. Spine or back bone.

B. Urinary bladder situated in the pelvis.

V. Vena cava, cut off.

R. Renal capsules, or appendages to the kidneys.

When it arrives there it is mingled with a fluid called the gastric juice, which is poured into the stomach from the mouths of numerous vessels all over its surface. By a gentle and steady contractile motion of the stomach, the food becomes intimately mixed with the gastric juice and dissolved, so as to form a gray pulpy mass called *chyme*; which passes out of the stomach in three, four, or six hours, or more, according to the food taken, and the activity and health of the digestive organs. A few inches from the stomach, the food meets with the bile and pancreatic juice, which are poured into the small intestine through their canals, to be mixed with the chyme and assist in the process of digestion. The chyme passes along the bowels, (by means of the same contractile motion which takes place in the stomach,) until it is thoroughly mixed with the moisture of the bowels. The nutritive part is then absorbed by the open mouths of the *lacteal* vessels and collected together into a small canal called the *thoracic duct*,—in this state it is a milky fluid called *chyle*,—this passes through the duct along the spine until it arrives at a vein just under the left collar-bone, where it mixes with the venous blood: when this blood passes through the lungs and becomes arterialized, digestion is completed, —the process then of digestion, is finished in the lungs.



NERVOUS SYSTEM.

ANIMAL HEAT.

Animal heat is the natural warmth which animals possess, independently of surrounding bodies, and which is generated within their own systems. The average temperature of man's body in health is about 98°,—that of the artic fox is 107°, and that of fishes so low as to produce the sensation of cold to our touch: they

DESCRIPTION OF PLATE VI.

NERVOUS SYSTEM.

This plate shows the nervous system, consisting of the brain, spinal cord and nerves. The brain gives origin to nine pairs of nerves, and the spinal cord, which is connected to the brain, gives off thirty-one pairs. There are properly, two brains: the large brain occupying the upper and front part of the skull, and the small brain, the posterior and base of the skull.

A. A. Show the two halves of the large brain.

B. B. The two halves of the small brain.

F. F. Spinal cord joined to the large brain.

O. Branches of the fifth nerve going to the face, teeth and eye.

E. Five nerves forming the brachial plexus, and going to supply the arms and hands.

W. Branches of the dorsal, or nerves of the back. Those near the lower F., are the nerves of the loins.

H. Sacral nerves going to the thighs, legs, and feet.

are called "cold blooded," although they maintain a temperature at 2 degrees above the water in which they live. Plants and all other organized beings maintain constantly a higher temperature than inorganic bodies. Animal bodies have the power of resisting heat which is many degrees above their bodies,—they also preserve their warmth in an atmosphere many degrees colder. If the heat of man's body be reduced to about 78°, that is, 20° below the natural standard, death ensues. Many ingenious theories have been proposed to account for the generation of heat within the bodies of animals. That of Liebeg is the most probable one, and may be briefly stated in his own words: "the mutual action between the elements of the food and respired oxygen, is the source of animal heat." Food is the fuel of the system,—a starving man dies for want of fuel to sustain animal heat. We have before said that oxygen is taken into the arterial blood from the air in the lungs,—we have said also that the venous blood contains carbon which is furnished by the food,—and it has been explained that the arteries and veins meet at their extremities, and are connected by the capillaries. Now when the oxygen of the arterial blood meets with the carbon of the venous blood, a chemical action takes place between them, precisely similar to the combustion of a common wood fire. This combustion is slow, but is attended with heat sufficient for the wants of the

system. Food containing the most carbon produces the most animal heat,—fat and oily food produce more heat than lean flesh and vegetables. When from sickness or other cause, the supply of food is cut off, the fat of the body is first consumed as fuel for the combustion;—the marrow of the bones is next attacked, and when this supply fails, the heat diminishes until death occurs. We see now, the beautiful connexion between the food and the heat of the body,—whenever more food is supplied than is required to supply the waste, and keep up the animal heat of the body, an accumulation of fat takes place. Any cause which tends to diminish the heat, expend muscular strength, or quicken the circulation and respiration,—must exhaust the fuel and render more food necessary. Cold air, cold bathing, cold drinks, mental exertion, and fevers all have this effect,—if digestion is suspended when the system is subjected to any of these influences, rapid emaciation must result. We can now understand why we grow lean during sickness,—why we eat less in warm than in cold weather,—why we require less food during rest than during labor. The circulation in reptiles and fishes is slow and languid,—this accounts for their low temperature and ability to live long without food;—the rapid muscular action of birds, and their passage through the air, accounts for their quick circulation and high temperature.

THE FIVE SENSES.

The five senses are, *sight*, *hearing*, *taste*, *smell*, and *feeling*: it is by the operation of these, that we become acquainted with the surrounding objects of the external world. They are the only medium through which we derive physical enjoyment or become acquainted with the physical properties of bodies. They act as the sentinels of the system, pointing out its relation to other objects and warning it of approaching danger. They are by no means however, the only sources of knowledge,—the perceptive intellect is perhaps dependent on the action of the senses for its education: but the higher intellectual powers are manifested through the brain.

The sense of *Sight* is the most perfect and valuable of all,—it is susceptible of much improvement by education: without it we should live in a world of perpetual darkness and gloom: the proper stimulus of the eye is light.

Hearing is less perfect in its action than sight,—on this sense depends all the pleasure of sound, for without it there would be to us, no music, no sound, and no spoken language: the proper stimulus of the ear is sound.

Taste, though still less perfect and valuable than the sight or hearing, affords us pleasure, and serves to guard the system against improper food and to select such as is salutary

Smell affords us less pleasure, and possesses less utility than any of the five.

Feeling or touch is highly useful in its action, by apprising the body of extremes of temperature, and also of the existence of disease,—it also affords many sources of pleasure. The action of all the senses is impaired by too strong stimulus to their proper organs.

ORGANIZATION IN INFANCY.

The organization is peculiar, and undergoes many important changes between birth and manhood. The great predisposition to disease during infancy and childhood, is due mainly to the relative activity, modifications and changes of the various organs of the body. All parts are imperfectly developed, and the functions are confined mostly to nutrition and circulation. The period of infancy includes the time from birth to the end of the seventh year : during the early period of infancy the head is disproportionately large, body long, legs short, hips narrow and abdomen large : The bones are soft, and contain much more cartilege than earthy matter,—the muscles are weak, pale and flabby. All parts of the mouth except the teeth, are completely formed,—the stomach is more conical, and lies more in a perpendicular position than in adult age, —hence the reason that infants vomit so easily. The intestines are longer than in after age, in proportion to the body ; the liver is also large, the gall bladder

and spleen small: the heart, lungs and blood vessels, are large, active and well developed, and all parts of the body are more abundantly supplied with blood than in after life. The nerves and organs of the five senses are well developed at birth, although they do not all indicate a high degree of activity,—and most of them undergo some subsequent changes. The peculiarity of function corresponds with that of organization, and undergoes corresponding changes.

FUNCTIONS DURING INFANCY.

The first physiological action which takes place after birth is respiration, which is usually active and free: the circulation is also rapid, the pulse being 120 to 140 in a minute. Digestion soon becomes energetic and the senses of hunger and thirst, urgent. The secretions are active and the excretions abundant: animal heat is generated less rapidly than in more advanced age. Taste, smell, and hearing are obtuse,—sight appears to be more perfect, deficient in strength and requires education: feeling is more acute as is indicated by extreme sensibility to cold. Motion is free, but awkward, partial and nearly involuntary: the moral and intellectual powers for the first few weeks appear to be almost entirely wanting. Usually about the sixth or seventh month the front teeth begin to make their appearance through the gum: at the end of the first

year the infant usually begins to make attempts at walking: at one and a half or two years he begins to articulate and manifest some observation and intellectual power. He is confiding, docile, pleased with trifles, fond of the gratification of appetites, and seems to live only for the present. The passions and affections begin to be manifest, but it is not till after maturer years, that the higher moral, intellectual and social faculties are displayed in their legitimate strength and beauty.

CHILDHOOD.

Childhood embraces the period between the second dentition, (teething,) about the end of the seventh year, and the end of the fourteenth year. During this period the first set of teeth, twenty in number, fall out, and twenty-eight permanent ones appear: after several years, usually at the age of twenty to twenty-five years, four more teeth appear called "wisdom teeth,"—these complete the set of permanent teeth, thirty-two in number. The bones become hard during the latter part of childhood, and the general form of the body is more graceful and the step more firm. The beard begins to appear on the face of boys, and the voice changes from the shrill treble tone of the child, to the full base tone of the man. The pulse and respiration are more full and strong, but less frequent than in infancy: the

sense of hunger is imperative and digestion strong and active, nutrition still predominating over the waste of the system, so that the body augments in size. The skin of boys begins to lose its softness, the hair on the head changes its color and becomes more abundant. The jaws attain a size more proportionato to the teeth, and the features assume their peculiar and permanent form. The sports of childhood are abandoned, the intellect begins to indicate more strength and activity, and the general character and habits all denote the approach of manhood. The development of both the body and mind, are modified by climate, health, habit, diet, hereditary peculiarities and education.

TEMPERAMENT.

Temperament, indicates the general constitution, texture, firmness and activity of the whole body. Physiologists usually distinguish four temperaments,—viz., the *sanguine*, *nervous*, *bilious*, and *lymphatic*. The *Sanguine*, depends on a predominance of the circulatory system, and is indicated by a strong active circulation, florid complexion, firm flesh, light or red hair, blue eyes, light skin, and activity of body and mind. The *Nervous*, depends upon the predominant development of the nervous system. It is characterized by a slender body, large brain, fine hair, eyes usually black, features sharp and expressive, great sensibility and ac

tivity of both mind and body. The *Bilious*, is supposed to depend upon the predominance of the biliary and digestive organs. It is indicated by a strong pulse, prominent veins, large bones and muscles, large chest, dark skin, hair, and eyes, strong features, energy of body and mind, strength and endurance of constitution. The *Lymphatic*, is indicated by fleshiness of the body, languid circulation, features round and not very expressive, skin, hair, and eyes light, appetite good, fondness of ease, aversion and inability to perform much mental or physical labor. The temperaments are all influenced by habit and health, and may be much modified by diet, exercise, study and other causes, which tend to bring into action one or another of the systems of organs on which they are dependent.

DIFFERENCES BETWEEN THE MALE AND FEMALE.

There are some striking differences between the structure and constitution of the male and female. We see here, as every where in nature, a wise adaptation of organization to the capacity and wants of the individual: the peculiarity of both mind and body, show conclusively that the two sexes were designed to occupy different positions and relations in life. The differences which will be noticed here, apply mostly to the adult,—being somewhat varied and less marked in in-

fancy. The stature of the male exceeds that of the female by about one twelfth : the body of the female is longer, the lower extremeties shorter and larger, the chest more convex, neck longer and head smaller, hips wider, bones smaller and less rough and compact, muscles less firm,—the general contour more round and graceful, and the body more disposed to the accumulation of fat. The nervous system is proportionally larger and more active than in the male. The constitution of the female indicates less strength, endurance, energy, and intensity of action, than is possessed by the other sex ; while it indicates more activity, excitability, emotion and sensibility than is manifest in man. In her system there is less expenditure of vital force and animal heat, by secretion, exhalation and muscular action ; her digestion is therefore less rapid and the appetite less sharp : her organization renders her liable to more diseases, and more susceptible to the action of medicines and all external impressions. Physical education should be adapted to the different powers of the system.

THE MUSCULAR SYSTEM.

DISEASES OF CHILDHOOD.

The imperfect organization, and the want of strength and vigor in most of the functions of early life, render that period peculiarly liable to disease. The large amount of blood supplied to every part, and the rapidity of the circulation, causes a very slight irritation to be changed to congestion, inflammation or fever. The skin and the lining membrane of the lungs and digestive organs, are the most exposed to the action of agents which produce disease,—hence they are the parts which are first attacked.

Diseased action is more apt to spread or extend, than in adults; thus inflammation of the windpipe, throat or mouth, is liable to extend to the lungs, stomach or nose, and following the same tissue to spread over most

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MUSCULAR SYSTEM.

This plate represents Hercules, wrestling with, and crushing Antæus, son of Neptune.

It is introduced here to show the muscular system, as it displays a greater number of muscles than could be done by any other single cut. The dark parallel lines of the engraving show the direction of the fibres of each muscle. The light spots show the reflection of the light, so as to represent the rounded form of the muscles. The skin and fat are supposed to be removed, and the muscles strongly developed.

of the mucus membrane of the whole body. The brain, from its large size and delicacy of structure, is peculiarly liable to disease: hence the frequency of spasms and convulsions of the body, apoplexy, inflammation, and dropsy of the brain. Although the convulsive diseases are common, they are usually dependent upon some derangement of the digestive organs,—and the nervous affections, properly so called, are not common to infancy or childhood.

Tubercles, swellings, collections of matter, dropsies and skin diseases, are more common than in after life. Diseases of the eye, ear and glands of the neck, are common and often obstinate; diseases of the heart are very unusual.

Affections of the kidneys are more common in children than is generally suspected by physicians; they are quite apt to succeed difficult teething, and diseases of the skin, stomach and bowels. Many of the symptoms of disease in children are so masked or obscured, as not to be visible without the most rigid scrutiny in examination. Children are liable to all the fevers which occur in adults, and also to rheumatism and inflammations of the joints. Many diseases such as scrofulous, veneral, nervous, consumptive and mental, are hereditary, and transmitted from parent to offspring.

GENERAL SYMPTOMS OF DISEASE.

It is often difficult in very young children to determine the disease with which the little sufferer is afflicted,—for as we can obtain no information from the patient relative to his feelings or the history of his malady, we are obliged to form an opinion from external symptoms alone. The symptoms of disease are nearly the same in childhood as in maturer age. The sleep, gestures, breathing, evacuations, pulse, appetite and mental manifestations, all afford important appearances. The *countenance* is in most cases an important index of disease; when the expression is calm or lighted up by a smile, it indicates a state of ease and a regular performance of all the functions: scowling or contraction of the features, pale, red, or blue tint of the face, rolling up of the eyes, swelling of the upper lip, twitching of the muscles or dilatation of the nostrils, are all evidence of approaching or confirmed disease. The *sleep*, in a healthy infant is quiet and profound, and indicates a state of ease and comfort; but if there is sleeplessness, sudden starting during sleep, slight spasms, screaming, fright, or deep and laborious sleep, there is some disturbance of the brain or digestive organs.

Crying is the natural language of infancy, and the only means by which very young infants express their wants and sufferings. Healthy infants cry but seldom, and then only to express some slight uneasiness or vex-

ation : but violent paroxysms of crying, (unless from anger,) plaintive moaning, short and suppressed, a hoarse or shrill cry, indicate disease. The *respiration* in health is full, easy and regular,—but it sometimes becomes slow, irregular, difficult, short, laboring, rattling, shrill "crowing" intermittent, or attended with cough, sneezing or hiccup.

The *tongue* and *mouth* sometimes show important characteristics of disease : paleness or redness, brown or white fur, dryness, swelling, trembling, ulcers or cracks in the tongue are signs of disease. Unusual redness of the gums and throat, increased or diminished secretion of saliva, bitter taste or brown scum on the teeth, also point to diseased action in some part of the system. The *skin*, in health is soft, slightly moist and warm, and has the crimson tint of the arterial blood : but when it becomes harsh, dry, hot, shriveled, pale, cold, clammy, blue, red, or yellow, some disease exists. A cold profuse perspiration shows debility or other disease : many of the eruptions of the skin indicate disease of digestive organs ; itching and tingling of the skin are signs of intestinal irritation from worms or other causes. The *breath*, if rancid, sour or fetid, is the result of fever, indigestion or ulceration. The *evacuations* from the stomach, bowels and bladder, are in most cases peculiarly characteristic, and are important symptoms : frequent vomiting of curdlike, green,

bilious, sour, bloody, black or fetid matter, is evidecne of disease of the brain, stomach, liver, kidneys or bowels. When the evacuatious from the bowels are frequent, slimy, bloody, green, black, gray, fetid or profuse and destitute of odor, or mixed with flakes of mucus or pieces of undigested food, or when great constipation is present, there is disorder of the digestive organs. If the *urine* is white, red, fetid, or deposits a brown or gray sediment, is scanty or profuse, passed with difficulty or entirely suppressed, there is morbid action of the kidneys or some other part. The development of the *bones* is often indicative of some disease: narrowness of the chest and very prominent breast bone, great length of body and limbs, large joints, curvature of the bones of the legs, brittleness of the bones, large head, weak joints, open seams, (sutures,) in the skull, and crooked back, all indicate a rickety, scrofulous or debilitated state of the system.

The symptoms above enumerated are sufficient to enable the common observer to detect the existence of disease: the grouping and appreciation however, of them, so as to distinguish different diseases, prescribe their treatment and judge of their danger, belongs only to the medical man.

CHAPTER II.

MANAGEMENT OF CHILDREN.

AIR.

A constant supply of pure air is indispensible to the health of every human being, from the first moment of existence to the end of life. This is even more necessary for infants than for adults, on account of the rapidity of the circulation and respiration, and the weak and irritable state of nervous system. Children confined in badly ventillated rooms become pale, feeble, irritable and finally consumptive. The nursery and sleeping rooms of children should therefore be large, clean, light and airy, and so situated that the atmosphere shall not become vitiated by noxious odors, gases, smoke, dust or dampness. The air should not be too warm, as this causes oppressive breathing, too great perspiration, feverishness and oppression of the head. Neither should it be too cold, for this checks the insensible perspiration which is constantly going on during health. Very cold air also closes the pores on the mucus membrane of the nose, throat, windpipe and lungs, and inflammation and fever ensue. Sleeping rooms should always be more or less open during the night as

well as the day time; the youngest and most feeble infant will sustain no injury from inhaling fresh air from the vast ocean without, provided the temperature is congenial and the air not loaded with vapor. Rooms should be ventilated from the top of the windows, especially in the night to avoid the direct current of cold air during sleep. Children should be carried or permitted to go into the open air often, and always with their faces bare unless the weather be inclement. The face should never be muffled or covered during sleep, for then the child breathes the same air over and over until it becomes vitiated, and he consequently wakes languid, perspiring profusely, and sometimes convulsed. The temperature of the nursery and sleeping room should never exceed 65° or 70°; older persons should not judge of this by their own feelings, as a degree of cold which to them would be comfortable, might be injurious or dangerous to an infant. When children become old enough to exercise actively, they can endure much greater cold,—finally, the air should not be so warm as to produce depression or languor, nor so cold as to produce chilliness.

BATHING.

The first attention which an infant requires is to be washed with fine soap and tepid water. This not only removes impurities from the skin, but prevents skin

diseases and promotes its healthy action ; it also allows the free play of that intimate sympathy between the skin and the lungs, nervous and digestive systems. If washing be neglected and the skin becomes filthy and rough, obstinate painful eruptions, indigestion and sometimes consumption, are induced. The temperature of the bath and the frequency of its use, must depend upon the age and condition of the child. The infant may be bathed every morning during the first two or three months, in tepid water, after which the bath may be nearly or quite cold. The idea that the cold bath is best for all children, is erroneous,—it is equally wrong to suppose none but the warm bath is safe and beneficial. Some infants have not sufficient vitality and strength to bring about re-action so as to recover from the shock and regain their natural warmth, but become weak, chilly and sick, by the use of the cold bath. Those of a robust and full habit of body on the contrary, by the use of the warm bath are affected by congestions of the stomach, lungs and brain, and suffer from indigestion, headache and convulsions. For pale, feeble and irritable children, the *tepid bath* is usually the best adapted : the temperature of this bath is from 80° to 90°. For those of active circulation, good digestive powers and robust health, the temperature may be from 60° to 32°,—constituting the *cold bath*. *The warm bath* is from 90° to 102°. Immediately after bathing,

the surface of the body and limbs should be well dried and rubbed with a linen napkin, and the child dressed and allowed to exercise. The cold bath should not be used during profuse perspiration, during a chill, nor sooner than three hours after eating. When the cold bath is followed by a glow over the surface, and a feeling of warmth and comfort, it is safe and beneficial: but if it is succeeded by a chill, paleness, languor, headache, or nausea and vomiting, it will most certainly be injurious. Clean rain or snow water and fine soap, are best for cleaning the skin. Soap may be used once or twice a week to remove the tenacious oily matter which is exhaled and adheres to the skin,—if not removed it is again absorbed so as to produce disease in some cases. A little soda or salæratus may be thrown into the bath instead of soap. If there is roughness or smarting of the skin after bathing, it may be rubbed with a very little olive or bears' oil, or a little starch or pearl powder. Children are easily bathed by immersion in a tub or pail of water, or by the shower bath: the particular apparatus by which bathing is performed is of no consequence,—the only object being to get the water on to the body.

In bathing infants, the head should always be wet, but not often washed with soap, as this fades the hair. Children should not be continued in the bath more than from one to three minutes. The foregoing rules will

serve as a guide only to the hygienic use of the bath, and not to its employment in the cure of disease: for it is well known at the present day that water is a powerful remedial agent, and that its improper use often produces injurious or fatal results. Too frequent use of the cold bath produces eruptions on the skin, debility and disease of the heart: its judicious use requires a knowledge of physiology and pathology.

CLOTHING.

The natural covering of the human body is insufficient to protect it against the temperature of the colder climates: and among all civilized nations, custom requires that some artificial covering be worn. The only uses of clothing are, comfort and convenience: but as good taste dictates, more or less elegance may be added, providing it does not compromise the other two. The dresses of children especially, should be such as to allow the utmost ease and freedom to all parts of the body, and at the same time to secure warmth in cold weather and coolness in warm weather. They should be loose, simple and light:—they should be loose, to allow free motion and prevent friction and pressure upon any part; simple, to admit of being easily put on and removed; light, to avoid needless burden. The amount of clothing should be so graduated as not to augment the natural heat of the body, thus causing

perspiration and debility, nor to allow the least chilliness. Every part of the person should be covered except the head, face and hands.

The habit of putting caps on infants is useless and injurious; the habit of allowing them to go barefoot is vulgar and cruel; the practice swathing or bandaging the bodies of children, is totally useless, and very pernicious to their health and comfort. Soft, white woolen flannel should be worn next to the skin during winter and the colder part of spring and autumn. This preserves an equable temperature, prevents injury from sudden changes of weather, and keeps up a gentle excitement of the skin by the friction it produces. When the flannel is laid off, soft linen or cotton may be substituted by degrees: this may be done also, at any time when woolen appears to be too irritating, as sometimes happens. The night clothes should be light and perfectly loose,—as tight clothes may produce congestion and convulsions. Every article of dress should be clean, dry, well aired and often changed: the whole dress should be fastened by means of buttons, hooks and eyes and tapes, to avoid wounds from pins. The color of the dress has some influence in conducting off or retaining the heat of the body; but as this is always subject to fashion, it will be useless to give any explanation on the subject.

SLEEP.

The first three or four months of infantile existence are mostly spent in sleep,—repose being only interrupted by the instinctive demands of appetite or some cause of disquiet. This is doubtless for the purpose of allowing rest to the senses, and avoiding those causes of excitement which would awaken a morbid sensibility and produce disease. When an infant is wakeful and restless, there is reason to fear that it suffers under some degree of indisposition. The sleep should be voluntary, and not forced or induced by medicines or rocking; neither should it be disturbed for the purpose of washing, nursing or dressing. Young children require a soft, warm couch in winter, but during warm weather they should lie upon beds filled with straw, cotton, curled hair, moss or air; as these are cooler and are destitute of the unwholesome odor which rises from feathers,—especially those which are new. The pillow should be of the same material, to prevent the head becoming too much heated, and avoid taking cold, earache, catarrh and snuffles. During the first three or four months it is better to allow the child to sleep with the mother,—after which it may sleep alone, (if the weather is warm,) in a cradle, cot or couch. The habit of rocking infants, if frequent or long continued, is injurious,—but if gentle and only occasionally dur-

ing waking hours, it is both harmless and pleasing to the child. The bed or cradle should be high and without curtains: that old fashioned contrivance called a "trundle bed," is a vile relic of barbarism and poverty, and deserves to be totally banished from civilized society. The position should be occasionally changed during sleep: this prevents too much pressure on any part, accumulation of heat, deformity of the head, and fatigue. The room in which the child sleeps should be partially darkened: during waking, it requires the stimulus of a mellow light, this conduces both to its health and cheerfulness. The eyes, however, should not be long exposed to the intense glaring light of the sun, fire or lamp. The custom of crowding several children into one room is highly pernicious, as the air soon becomes vitiated and unfit for respiration, and the children wake feverish and debilitated.

All perfumery, flowers, medicines or food, or any thing exhaling a strong odor, should be excluded from sleeping apartments. Children ought never to sleep with old or sick persons: neither should they be fondled or kissed by old, diseased, filthy or strange persons, for fear of incurring vermin or some disease. Young children should be protected against loud noises, strong odors and sudden frights. Children of more advanced age should be accustomed to retire early and rise early in the morning; this is the best time for

study and exercise. Too much sleep produces sluggishness and debility of both mind and body, in any person, old or young. From six to eight hours sleep, is usually sufficient for all persons, (except infants,) when in ordinary health.

EXERCISE.

During the first few months of infancy, but little exercise is required,—nor does the organization admit of more than a small amount of passive and gentle movement. The infant may be carried about in a horizontal position within doors,—or when the weather is pleasant it may be carried or drawn in a wagon in the open air, a few minutes at a time, several times daily. All rough tossing, jolting and dandling are injurious. For the first two months, the infant should not be placed in the erect posture; because the bones are soft and the muscles weak, and inadequate to sustain the burden of its head or body without the risk of deformity.

When the infant indicates some desire to sit alone and move about, he may be allowed to sit, lie or roll about on the floor with the utmost freedom. When riding, the position should be often changed, and nursing should be done equally upon the right and left side, to avoid deformity of the head or spine.

It is better that the child should not attempt to stand or walk before the ninth or tenth month; for too early

efforts at walking are apt to make the legs and ankles crooked: it should rather be encouraged to creep until it acquires sufficient strength and firmness to walk voluntarily; its form will be better and its step more firm and graceful. The movements for the first year and a half should be untaught and spontaneous. Children should not be confined to little chairs, "baby jumpers" or any apparatus for restraint; for although it may relieve the mother or gratify the laziness of the nurse,—it is still unnatural and injurious to the delicate growing system of the child. After the age of two years, the instinctive calls of the system for exercise may be freely gratified: the idea that girls require more restraint and less exercise, than boys,—is erroneous, and the practice resulting from it cruel. Girls as well as boys, should be permitted to roam free and unconfined over the wide field of nature, and inhale the "pure breath of heaven." When the weather is inclement, they may be more guarded, and when any cause of danger is near they should be looked after by some older person. The first eight or ten years of childhood may be passed in various kinds of exercise and amusements for physical education. Confinement in school rooms or shops, or at desks, or to any laborious occupation, is always injurious and unkind. Various amusements, such as flying a kite, rolling a hoop, jumping the rope, rowing a boat, playing at ball, skating, and all kinds of

athletic exercise, have a tendency to develope the muscles and lungs, and ensure healthy digestion.

Exercise should always be taken with some motive, to engage the mind at the same time: when any person is exercising merely for the sake of exercise, and with no motive or object in view to interest him, it usually becomes laborious, and might better be dispensed with. Children should be indulged in pursuing little mechanical operations, and in learning to build and construct whatever their tastes may incline them to: they should be taught to admire the beauties of nature, rather than be supplied with the various little toys and contrivances of art. They should be permitted to take short rambles for the purpose of collecting flowers, insects, minerals or fruits, or to observe the habits of animals and birds, and enjoy the prospect of natural scenery.

Exercise as before remarked, should not be indulged in immediately after meals, nor under the rays of the sun in very hot weather. Care must be taken after violent exercise, not to sit in a current of air, throw off the clothing too soon, or to drink or bathe in cold water; because if there is any perspiration, it is stopped, and a fever or other disease sometimes ensues.

DRINKS.

Infants feel the sensation of thirst, as early as that of hunger, and are highly gratified and benefitted by a small quantity of cold water several times daily.

Restlessness and crying are often caused by thirst, but mistaken for colic or hunger, and the infant is dosed with cordials or opiates, or forced to take the breast, which only increases its distress, perhaps surfeits the stomach and causes nausea and vomiting. This leads to the apprehension that he is sick, and dose succeeds dose, till disease is often produced.—when a spoonfull of cold water would have removed all unpleasant sensations. No person should take a largo quantity of water at once, especially during meals: cold water is the best drink for all persons old or young.

Hot drinks are injurious, particularly during meals: cold water, milk and water, weak coffee, tea or chocolate, may be taken in small quantities during meals. It is perhaps needless to say, that strong liquors should never be given to children in any quantity. Cold acidulated drinks, such as small beer and lemonade, during warm weather, allay thirst and assist digestion. Very cold, as well as very hot drinks should be avoided,—they injure the teeth, produce colic, headache and sometimes death. It is better to endure thirst for a while than to drink often, for this is apt to derange the secretions and create a morbid appetite.

DIET.

Nature furnishes a vast number of substances proper for the food of man,—and those by the assistance of art are prepared in an almost infinite variety of forms. But during the first few months of existence, the maternal milk is the best, and only proper food. Nature affords no substitute, nor can art prepare one: the difficulty and danger of rearing infants when early deprived of the breast, is too well known.

The mortality among such infants is shown by statistics to be very great. When therefore from any cause the mother is *unable* to nurse her infant, or has not sufficient of wholesome milk to sustain it in good condition, a neat and healthy wet nurse should be employed. Some morbidly delicate and prudish mothers, have a habit of abandoning their infants to the care of a nurse, either to gratify pride or slothfulness, and in this way many an infant has been starved, or fed to death by improper food. It ought to be known to every mother, that the digestive powers of infants, although active, are extremely weak, and liable from slight causes to become diseased. Any article of food not adapted to its powers, is not digested,—but lies heavily in the stomach until it ferments or putrifies, causing flatulence, colic, diarrhea or costiveness, and sometimes spasms and inflammation. As a general rule, the mother's milk should be the only food for the first

nine or ten months; no solid food should be allowed until a sufficient number of teeth aro developed, to enable the child to masticate.

When it becomes necessary to increase the amount of food derived from the breast,—or to "bring up the child by hand," cows milk is the best substitute: it should be mixed with an equal quantity of warm water and a little loaf sugar added. All preparations, such as gruel, panada, broth, soup or solid food, are unfit for the diet of an infant. Tho milk of some animals resembles that of the human female, but from the difficulty of obtaining it, we need not recommend any other than that of the cow. Animal food is too strong and stimulating for infants before the first set of teeth are complete,—and it is apt to produce indigestion and fever. After teething is completed, a more solid and nutricious diet may be allowed;—such as tender meats, soft boiled eggs, custard, plain pudding, bread and milk, arrow root, sago, tapioca, roasted potatoes and boiled rice. A milk and vegetable diet are better adapted to infants than animal food, although a due proportion of well cooked, lean, fresh meat is in most cases harmless. All condiments, ices, pastry, confectionary and spices are injurious: the habit of eating very often too, is a frequent cause of dyspepsia. A full meal should not be taken just before retiring at night; nor should violent exertion of body or mind be indulged in soon af-

ter meals: it is better to enjoy a few minutes rest and quiet until digestion is well established.

No person should surfeit himself, however keen his appetite; for this is often a very deceptive index as to the quantity and kind of food which is salutary and wholesome to the system.

It is best always to desist from eating while some appetite still remains: care is also requisite that too much of one kind of food be not taken,—but rather a due proportion of several kinds: the food should not be taken too fast or swallowed without being well masticated. Sugar and other sweet substances are not injurious when taken in due quantity and with other articles of diet; all sweet and ripe fruits, when freed from the seeds, stones and skins, are wholesome and nutricious in small quantities. Sour, green or acrid fruits are decidedly pernicious,—cherries of most kinds, and also some kinds of grapes, are peculiarly unwholesome: ripe fruits, either dried or recent, when cooked or preserved and made palatable with sugar, are not objectionable. Bread made light, of fine wheat flour, is doubtless the best for all persons, old or young, sick or well. All rules in reference to diet, must be varied according to the age, health and conditions of the system, as well as the occupation of the individual.

MEDICINES.

Few causes are more productive of disease, than the improper and too frequent administration of medicine: the endless variety of nostrums which are every where offered for sale, and certified and lauded in every public print that meets the eye, begets in the public a passion and desire for taking medicine. And this is done in many cases when no traces of disease exist, and with no better reason than that of preventing some distant and contingent malady. It should be known that all substances which operate medicinally on the system in the cure of disease, are capable, if improperly taken, of producing disease also. No substance entitled to the name of medicine, can be indiscriminately and ignorantly prescribed, either in health or sickness, without danger: and no person unacquainted with anatomy, physiology, disease and medicines, can prescribe without the risk of producing fearful disease or death. The idea that any one medicine will cure all diseases, has caused the death of thousands: it is equally erroneous to suppose that any medicine is a specific in any disease, or that all diseases originate in one cause, viz., disorder of the blood. Many ignorant people hold to the superstition that every country furnishes medicines for the cure of all its diseases, and that when these medicines shall all be understood, all diseases can

be cured: but what is the inference from such premises? clearly this,—that the declaration of God, "it is appointed unto all men once to die," shall be rendered void, and man become immortal on earth. As though the Creator had put an instrument into the hands of man, to defeat his own wise and holy purposes,—or ordained one law which should conflict with another. Perhaps, it is best to give no directions in relation to prescribing medicines,—but to advise only, that every family should employ a physician in whom they have confidence, and avail themselves of his counsel.

CHAPTER III.

DISEASES OF CHILDREN.

DIFFICULT TEETHING.

Teething is not usually attended with much suffering or danger; yet when there is much predisposition to disease during this process, any exciting cause may produce violent and dangerous symptoms. The first teeth usually begin to penetrate the gums about the seventh month of infancy,—they sometimes however appear as early as the third or fourth, and in some cases as late as the twelfth or fifteenth. In difficult teething there is redness and tenderness of the gums, increased flow of saliva, thirst, looseness of the bowels, slight fever, restlessness and sometimes eruptions on the skin. In the more severe cases there are often ulcers of the gums, diarrhea or dysentery, inflammation of the brain or bowels, spasm of the windpipe, convulsions and death. These cases require perfect cleanliness, quiet, pure air, vegetable diet, cool drinks, mild cathartics and lancing of the gums.

TOOTHACHE.

This may result from decay of the tooth and exposure of the nerve, from inflammation of the nerve,

gums or membrane lining the socket, or from ulceration at the root of the tooth. If the tooth is much decayed, dark colored, or ulcerated, it should be extracted: if the pain is caused by inflamed gums or socket, the gums should be freely lanced, warm fomentations applied to the face and a gentle purge administered.

When the tooth has a cavity in it so as to expose the nerve and cause pain, the application of a ball of cotton wet in some stimulating or other medicine, such as oil of cloves, or cinnamon,—or creosote or laudanum, may give relief.

CAUSES OF DECAY.

The predisposition to decay in the teeth is sometimes hereditary and depends on original debility of the parts. All acids, hot, or very cold drinks, biting hard substances, scraping and filing the teeth, diseased lungs, stomach or gums, and the abuse of mercury, induce decay.

The teeth should be kept clean by the use of a soft brush and fine tooth powder: they should be occasionally examined by a skilful dentist or physician, and all operations entrusted to them.

INFLAMED GUMS.

During the first dentition the gums are very liable to become inflamed. in some cases it is slight, and in

others, severe, and productive of serious consequences. The gums first become red, or livid, swelled and painful, child languid, feverish, thirsty, tongue furred, appetite impaired and sleep disturbed. When the inflammation occurs before the double teeth appear, it often destroys the new teeth: and when the inflammation proceeds to ulceration,—if this is not speedily checked, the other teeth become black, loose and decayed. There is a flow of saliva, sometimes mixed with blood, the breath is fetid, countenance pale and sometimes severe attacks of diarrhea. This condition is caused by too much, or improper food, filthiness of the teeth, neglect to lance the gums in difficult teething, biting hard substances, acrid medicines or fruits, and disorder of the stomach. The gums should be freely scarrified, the bowels regulated, a wash of nitrate of silver or some astringent medicine applied to the gums, the teeth cleaned and all decayed ones extracted: the diet should be regulated, and the general health improved.

THRUSH.

Four or five varieties of inflamed mouth are described by authors,—but the most common of these are simple inflammation and thrush. The symptoms of the first are, redness and dryness of the mouth, the infant manifesting pain when attempting to nurse. Caused by teething, bad diet, sharp acrid substances, cold, or

over exertion of the muscles of the tongue and mouth in attempting to nurse from a badly formed nipple. By removing the cause, and the use of simple washes and mild laxatives, a cure is soon effected. Thrush is confined in its attacks mostly to nursing infants. At the beginning of an attack the child is restless, the mouth red, dry and hot, digestion is disturbed, and there is difficulty in nursing: after one or two days, small white spots appear on the tongue and mouth, and sometimes spread over the entire surface. In the course of the disease, patches of curdlike matter fall off and the spots are again covered as before; it sometimes extends backwards into the throat, or ulcerates and becomes both tedious and troublesome,—in some cases it proves fatal.

It is caused by improper diet, filthiness, impure air, disorder of stomach and bowels, sudden stopping of diarrhea, and nursing from a sore nipple or a diseased nurse. In mild cases, pure air, proper diet, cleanliness, mild cathartics and soothing washes for the mouth, will remove the complaint: but the more severe cases require judicious medical treatment.

CANKER.

Canker, (or gangrene of the mouth,) is a painful disease attended by much constitutional disturbance, blistering of the mouth, and afterwards discharge of

saliva and blood, offensive breath, ulceration of the gums, affection of the teeth and bones of the jaws, and sometimes mortification of the cheeks and lips, and finally death. No treatment within the reach of any one but the physician, can be safely advised in this disease.

TONGUE-TIE.

Occasionally, though seldom, the frenum, or "bridle" of the tongue is too short, or approaches so near the end as to prevent infants from nursing, and in after years to impede distinct articulation. Physicians are often called upon to remedy this supposed deformity by cutting the frenum: this operation is attended with some danger, and when the infant is able to nurse well, is never necessary; when the tip of the tongue will reach the outside of the lip and roof of the mouth, the child can nurse, and in proper time will talk plainly unless prevented by some other deformity.

DISEASES OF THE NOSE.

A disease called *Polypus* sometimes affects the nose, filling up the nostril, causing deformity, obstruction to the passage of the tears, indistinctness of speech, difficulty of breathing, especially while lying down, and sometimes an offensive discharge of matter or bloody fluid. The disease consists of a tumour in the nostrils, formed of flesh, or a sac filled with watery, bloody, or

jelly-like matter. Polypus may be caused by injuries of the nose, taking snuff, colds, and enlarged tonsils. It is sometimes dangerous, and requires medical treatment, or removal.

Ozena, is an offensive discharge from one or both nostrils, caused by inflammation and ulceration of the lining membrane of the nose. It requires remedial attention.

Nose-bleed, is sometimes frequent and troublesome: caused by injuries of the nose, fullness of the blood-vessels of the head: in robust persons troubled with dizziness and headache, it is often beneficial, and unless excessive, need not be restrained: but in those of a pale and weak habit, it may if long continued produce debility and dropsy. It may usually be restrained by the application of cold water to the head and neck, snuffing cold water or alum water into the nose, or stopping the nostrils with lint or cotton. When these means fail, more efficient ones must be employed, or it may prove fatal.

Coryza, or snuffles, is a slight inflammation of the inside of the nose, attended by sneezing, discharge of mucus, swelling of the nose and upper lip, and difficulty of breathing, caused by partial or entire closure of the nostrils. Snuffles may be caused by cold, strong light, hot rooms, worms, want of cleanliness, wet clothes. The child should be kept clean and the bow-

els loose.—warm bath, and washing the nose are of service. *Foreign bodies*, such as sticks, seeds, pebbles, &c., sometimes get into the nostrils and produce much distress : they may usually be removed by sneezing, or the use of a bent wire or probe,—or they may be pushed back into the throat.

DISEASES OF THE EYE.

Acute inflammation of the eye is attended by redness, smarting, pain, flow of tears, sensation as if the eye was filled with dust, more or less fever and headache. Caused by smoke, dust, vapors, injuries, heat, cold, intense light, filthiness and disorder of the digestive organs. When the disease becomes *chronic*, there is discharge of matter, a dull leaden appearance of the eye, swelling, pain and dimness of sight.

Strabismus, or "cross eye," consists in one or both eyes being turned inward or outward, so as to alter the axis of the two eyes and prevent perfect vision. It may be caused by disordered stomach, using one eye to the neglect of the other, by the habit which children have of looking cross eyed,—and it may exist at birth. *Stye*, is a small painful boil, at the edge of the eyelid,—it may be opened or touched with caustic. The treatment of all the diseases of the eye, should be submitted to the care of the surgeon.

DISEASES OF THE EAR.

Acute inflammation of the ear is known by the swelling, acute pain and noise in the head, and pain in swallowing or moving the lower jaw. *Chronic* inflammation is attended by some degree of deafness and discharge of matter. Caused by colds, foreign bodies in the ear, measles, scarlet fever and scrofula. *Nervous earache* occurs in paroxysms of severe pain in the ear, and shooting over the face, head, neck and shoulder.—Caused by sudden cold, decayed teeth, and sometimes by fullness of blood. Warm foot bath, morphine, and hot applications to the ear and face, usually give relief. *Foreign bodies*, such as beans, insects, and dust sometimes get into the ear and cause intense pain: they may be removed by syringing the ear with water, or by a small bent probe or wire.

MALIGNANT SORE THROAT.

This species of sore throat differs from that which attends malignant scarlet fever. It is usually limited to the upper part of the throat,—it begins with redness, swelling of the tonsils, bloated face, flow of tears, chills and flashes of fever: the redness of the throat soon changes to a dull ash color, and then to brown or black,—there is thirst, hoarseness, difficulty in swallowing, nausea, sometimes vomiting and diarrhea. In the more severe cases there is a bloody or watery dis-

charge from the nose, and a fetid discharge from the throat,—the tongue becomes brown, dry, and coated, there is often an eruption on the skin, sinking of the powers of life, and finally death.

Most medical writers consider this disease contagious,—it is caused also by cold, wet, insufficient clothing and food, bad air, and want of personal neatness: it is a very dangerous disease, and requires prompt and efficient treatment.

CROUP.

This is a common and dangerous disease among children: it sometimes makes its attack suddenly and proves fatal in a few hours; it usually however advances gradually, the first symptoms being hoarseness, cough, slight obstruction to respiration and some fever. After a few hours these symptoms increase in intensity,—the pulse becomes frequent and hard, the face red, skin hot and dry, throat sometimes dry and sometimes filled with tough phlegm, the inspirations are accompanied by a peculiar wheezing or crowing noise, the eyes are turned up, the mouth open, face pale and covered with perspiration, and death soon closes the scene. Croup appears to be mostly limited to children under the age of five years: some appear to be predisposed to the disease; it is most prevalent during the cold damp season of the year, and is caused by cold and

wet, insufficient clothing, and by attacks of measles and whooping cough. Croup requires prompt and careful attention.

LARYNGITIS.

This is a dangerous disease resembling croup, and often mistaken for it: it consists of an inflammation of the top part of the windpipe, (called the larynx,) where the voice is formed,—while croup is an inflammation of the windpipe below this point. The physician should be able to distinguish the two, and adopt the proper treatment.

QUINZY.

Quinzy is an inflammation of the tonsils,—or as they are vulgarly called, the "almonds of the ear." It is common to childhood,—and begins with sore throat, hoarseness, chills, flashes of fever, and after a short time, difficulty of swallowing; there is sometimes nausea, vomiting and discharge of tough phlegm: the throat is red, swollen, and covered with mucus, the tongue covered with a white fur, headache, partial deafness, and in some cases loss of voice and disturbance of the brain. Caused by exposure to cold and wet, cold drinks during perspiration, violent paroxysms of crying, loud singing or shouting, and all causes which irritate the throat. Chronic quinzy, or *enlargement* of the tonsils, is common among both children

and adults. If the throat be examined in these cases, a roundish, red or livid tumour will be seen on one or both sides of the root of the tongue, and just behind the half arches of the palate.

The voice is more or less hoarse and the articulation indistinct,—which is owing to the back part of the nostrils being partially closed by the enlarged tonsils,—the neck is more full, as if swelled on the outside, opposite the tonsils, the nose is also thickened, the hearing blunted, the breathing obstructed, so that the patient, during sleep, lies with the mouth open and breathes with a rattling noise; the countenance is pale and there is blueness under the eyes. These enlarged glands are liable to frequent attacks of inflammation and ulceration, which sometimes cause other diseases and finally death.

The proper treatment is excision,—the operation is easy, quick and safe, and is a sure remedy for the complaint. The *uvula* or "palate," sometimes becomes enlarged, so as to produce unpleasant symptoms; the best and quickest remedy is excision.

BRONCHITIS.

This is an inflammation of the bronchial, or air tubes of the lungs, and is common to childhood. It commences with chills, flashes of heat, slight cough, oppression and tightness in the chest, breathing diffi-

cult, wheezing and ratttling, and hoarseness of the voice. Breathing is more distressing when the patient is lying down,—the cough is at first dry, but a copious discharge of stringy phlegm, resembling white of eggs soon appears, with some relief to the cough : the skin is dry, and the tongue covered with a white mucus. In more severe cases, these symptoms may all be augmented and attended with much danger. Caused by cold, wet, sudden changes of weather, insufficient clothing, loud speaking, crying, dust, and noxious vapors.

INFLAMMATION OF THE LUNGS.

Among children as well as adults, this is a frequent and dangerous disease. It begins with symptoms similar to those of bronchitis, and is produced by nearly the same causes. In infants it is an obscure disease, and requires close examination and judicious treatment.

WHOOPING COUGH.

A contagious disease peculiar to childhood, and which seldom or never attacks the same individual a second time. It usually begins with lassitude, hoarseness, sneezing, headache, some difficulty of breathing, appetite fails, sleep disturbed, bowels often costive, and there is some fever at evening. For the first one or two weeks, the cough is dry and short without the "whoop." After this, the cough is more severe and

frequent, attended by convulsive breathing, flow of tears, blueness of the face, often nose-bleed, and a peculiar noise called the "whoop," which is too well known to require description.

The fits of coughing occur several times in a day, seldom last more than a minute, and are usually terminated by a discharge of phlegm, and often vomiting and pain in the chest. The cough continues from four, to eight or ten weeks, and gradually declines. Whooping cough often occurs when measles are prevailing, and usually during the fall, winter and spring.

When it occurs in cold, wet weather, or in young, feeble or consumptive infants, it is more severe, and often followed by other diseases which may prove fatal.

No cause but contagion is known positively, to produce whooping cough: it is very liable to run its course,—which however, may by medical treatment be much shortened and mitigated. During the height of the disease, the patient should use a spare diet, go well clad, be confined mostly to his room, which should be of a moderate temperature, and well ventilated: an emetic at the onset of the disease, or an occasional cathartic of calomel and oil, with some soothing expectorant medicine, will suffice in mild cases; those complicated with other diseases, or of a long continued and severe character, require more efficient remedies.

CHOKING.

Children sometimes get choked by bits of food or stones of fruit, which produce cough, blueness of the face, gagging, sometimes nose-bleed and convulsions,—and if relief is not given death ensues.

When a child is choked, he should be held with the head downwards and receive two or three smart blows on the back between the shoulders: if this does not give relief, the mouth should be thrown wide open and some person should endeavor to dislodge the body, either bringing it out of the mouth or gently pushing it downwards: a few swallows of water may enable it to pass into the stomach. When all these means fail a surgeon should be quickly called.

INDIGESTION.

This is an affection in which the action of the digestive organs appears to be suspended: the food is imperfectly, or not at all digested, but is discharged by vomiting or stool without being changed,—there are often no symytoms of inflammation. Indigestion in infants, is almost invariably caused by too much, or improper food.

The most common symptoms of indigestion are, nausea, vomiting, sour odor of the breath, the milk discharged is sometimes curdled and at others unaltered, and there are more or less griping colic pains. Children who are weaned early, or reared without the

breast, are liable to attacks of indigestion, and often become pale, weak, emaciated, the tongue furred, bowels bloated and tender, mouth sore, thirst, fretfulness, moaning, eyes glassy, and finally in some cases death ends the suffering. In older children, indigestion is caused by unripe fruits, too much food, confectionery, pastry, improperly cooked or hard food, eating too often, and at irregular and unsuitable hours. Affections of the brain, convulsions, spasm of the windpipe and inflammation, sometimes result from this disease.

The diet should be regulated, child carried or permitted to go into the open air,—the warm bath and flesh brush should also be used. The bowels, stomach and liver should be regulated by small doses of magnesia, calomel, ipecac, gum arabic, and enemeta of cold water, milk and water, or weak solution of soap in warm water.

INFLAMMATION OF THE STOMACH.

Inflammation of the stomach is more common in infancy than is generally supposed: it varies in extent from slight inflammation of a small spot, to the entire surface of the stomach, and often involving more or less of the intestines. The symptoms are, vomiting, whenever anything is taken into the stomach, dry, hot skin, redness of the point and edges of the tongue, while the middle is covered with a white fur, thirst, pulse small and frequent, restlessness, loss of appetite.

The matter vomited is often thick ropy mucus, or green bilious matter, and there is sometimes diarrhea.

There is in some cases bloating and tenderness of the bowels. This disease is dangerous and may prove fatal in a few days,—or it may become chronic and continue for some time, producing great debility and emaciation, and finally, death. This disease may be produced by improper food, hot drinks, irritating medicines, rheumatism, sudden drying up of eruptions.

COLIC.

All pains in the stomach and bowels of children are called colic, when they do not result from inflammation. This often occurs in children when there are no signs of indigestion or other disease: it sometimes occurs periodically about the same time of day, and appears to be entirely a nervous pain.

Colic usually however, depends upon the child having taken too much, or improper food, which produces fermentation and gas in the intestines: it may be caused also by cold feet and certain medicines. The attacks are more or less violent, and sudden, causing much distress for a few minutes, and then subsiding at once, leaving the child apparently well.

In severe cases there is violent crying, the bowels bloated, legs drawn up to the body, face flushed,—and sometimes a discharge of frothy fluid and gas from the

bowels, which gives some relief. Colic may be caused by too much opiates, cordials, confectionery or fruits; it is most common in infants under the age of four or five months, and often occurs in robust healthy children. It is not considered dangerous after the time of teething. It may be remedied by the warm bath, warm injections of soap and water,—a few drops of paregoric or oil of pepperment. In other cases a portion of soda, calomel and oil or turpentine, or aromatic syrup of rhubarb may be necessary. Friction to the bowels with liniment, or hot fomentations may assist other remedies.

DIARRHEA.

Diarrhea occurs in most cases of inflammation of the bowels, but it also often occurs when there is only irritation of the mucus surface of the intestines.

Caused by improper food, sour and green fruit, fresh meat, green corn, heat and cold, wet feet, stimulant and irritant medicines and a vitiated state of the mother's milk. Insufficient food and clothing, impure air, filthiness, frights and anxiety of mind, are all causes of this disease. It sometimes prevails as an epidemic, when it cannot be traced to any known cause; it is not however, considered contagious. Its attacks are sometimes sudden, and cease in a few hours: in other cases they continue obstinately, for a long time, and produce great debility, and finally, death. There is loss of appetite

in some cases, and in others a craving desire to be eating almost constantly: nausea, and often vomiting, thirst, griping, bloating of the bowels, tongue in some cases clean and in others furred. The evacuations from the bowels vary in appearance,—being sometimes thin and watery, or like curdled milk having a sour odor,—or they may be brown, green, yellow and fetid, streaked with blood, or mixed with mucus or undigested food, and void of odor.

Diarrhea may usually be cured by regulating the diet and regimen of the child, warm bath, a few doses of chalk and mercury, oil, paragoric or aromatic syrup of rhubarb: some cases, however, are complicated with other diseases, and require more efficient treatment.

CHOLERA INFANTUM. (*Summer Complaint.*)

This is one of the most fatal diseases to which the period of infancy is subject: it occurs mostly among children under the age of two years, and during the warmer part of the season. This is said by authors to be a disease peculiar to the United States.

It usually commences with a profuse diarrheal discharge of light colored fluid; after a short time the extreme irritability of the stomach is manifested, by the constant vomiting of every thing swallowed. The discharges from the bowels sometimes contain flakes of mucus: the passages are often involuntary, and attend-

ed by much irritability and debility : the tongue is coated with a white slimy matter, the skin dry, pulse quick and small, much thirst, bowels hot, sometimes bloated and tender : there is, at times moaning or sudden screeching, indicating acute pain.

Digestion is so far suspended that whatever is eaten passes unchanged. In some cases delirium comes on early and the little sufferer dies in one or two days from the attack : at other times the disease continues until extreme emaciation is produced,—the skin has a wrinkled dirty appearance, bathed in cold perspiration, the features sharp, eyes large and glaring, the whole countenance has the appearance of old age. The cholera of infants is mostly a disease of the mucus coat and glands of the bowels,—often accompanied by enlargement of the liver. It is caused by impure, stagnant, or confined air, coming in contact with the sensitive surface of the air passages, skin and digestive organs.

This disease may be produced by all the causes which produce diarrhea : it seems mostly to prevail in low damp situations, in towns and cities. Perfect cleanliness, pure air, good diet and change of location when it depends on that,—are indispensible in addition to medical skill.

DYSENTERY.

This disease consists of inflammation, which is confined mostly to tho large intestines, or that part of the

bowels called the "colon." In some cases however, the inflammation extends to the small intestines and even the stomach.

The symptoms are, griping, frequent and small discharges of slimy matter, (mucus,) mixed with blood: the first discharges are usually however, thin and watery, the bowels are tender, dry and hot, there is some fever, furred tongue, and sometimes vomiting. When these symptoms are not abated by timely remedial means, they are apt to increase in intensity until terminated by death.

Dysentery is caused by changes of weather, improper diet, worms, hot wet weather, impure air, want of sufficient food, unhealthy milk, &c. When the attack is attended by profuse discharge of blood the case is more favorable than if no blood appears.

The diet should be restricted to animal broths, boiled rice and the like,—the clothes kept clean, the child put into the warm bath, fomentations and liniment applied to the bowels, the drinks should be barely water, gum arabic water and flax seed or slippery elm tea: small doses of chalk, calomel, opium, ipecac and hyosciamus are the principal medicines in this complaint. Enemeta of solution of sugar of lead, tea of oak bark, or starch and laudanum are also of much value. But dysentery often assumes an intractible character which resists the action of all remedies and finally proves fatal.

WORMS.

Too many of the diseases of childhood are ascribed to the presence of worms in the intestines: they often produce disease,—but they are doubtless found in the intestines when no disease exists. They also exist in the stomach or bowels when there are no certain signs to indicate their presence: on the contrary, symptoms of worms sometimes appear when no worms are found by examination after death.

We have no certain signs by which we can ascertain the presence of worms in all cases,—nor when they are known to exist, can we at all times remove them, or judge precisely of the amount of disease which they produce. They are of frequent occurrence in children, and sometimes produce severe irritation and many unpleasant symptoms; and these symptoms often continue after the worms are removed.

There are four species of worms, known to inhabit the stomach and bowels of children: worms are also found, (though rarely,) in the lungs, liver and brain. What is the origin of worms, or how they come to be in the body is yet a mystery. They are more common in some countries than in others; and among those poorly fed, and suffering from filth and poverty. The following are among the causes which are supposed to favor the production of worms,—viz, cold and

wet, bad air, unripe fruits, milk, fat meat, sweetmeats and pastry, and a scrofulous constitution. Children under eight or nine months of age are rarely affected by worms,—although in some few cases they have been found in the intestines at birth.

Adult persons sometimes suffer from worms. Children suffering under irritation from worms are usually pale, with a blue or leaden streak under the eyes, bloated abdomen, itching of the nose, headache, furred tongue, offensive breath, gnawing pain in the stomach, appetite variable,—sometimes voracious and again loathing all kinds of food; the bowels are sometimes costive and sometimes inclined to diarrhea. The most certain evidence of worms is, their appearance in the evacuations,—next to this, the fetid breath and dilation of the pupil of the eye are the surest symptoms. In adopting means to rid the system of worms, the diet should first be regulated: all fruits, pastry, confectionery and stimulants, should be prohibited: the diet should consist of boiled fowl, beef stake, mutton chop, rice, wheaten bread, boiled milk and crackers, soft boiled eggs, custard, baked potatoes, and ripe cooked fruits. Perfect cleanliness should be preserved by means of the warm bath at evening: pure air, warm clothing during cold weather, and exercise in the open air, are also useful. Enemeta of soap and water and frictions to the abdomen with liniment, will also relieve

pain in the bowels. Among the best worm medicines are calomel, spirits of turpentine, pink root, aloes and worm seed oil: common salt, cowhage and some others are also occasionally successful. There is usually some irritation and debility of the bowels after the expulsion of worms: this may be allayed by a liitle gum arabic, Dover's powders, tincture of gentian, iron or hyosciamus, and good nutricious diet.

PROLAPSUS OF THE BOWELS. (*Piles.*)

It is not uncommon with children, for the mucus lining of the bowels to become relaxed, so as to protrude externally during evacuations,—especially if there is costiveness, diarrhea or worms. When first discovered it appears in the form of a small, irregular, red, soft swelling, at the verge of the bowels, and is attended by smarting and tenderness. After a few days if not relieved, the child loses his appetite, becomes restless, the protruded bowel becomes swollen, red, or livid, and tender, and in some cases cannot be returned to its place until ulceration has succeeded. The first care should be to return the bowel if possible; this can usually be done by making gentle pressure with fingers, smeared with some soft oil: if this fails, an enema of warm soap and water with a little laudanum should be given so as to relax and evacuate the bowels: if these means fail also, leeches and fomen-

tations should be used until the object is attained. When the swelling is reduced and the bowel replaced, means should be employed to prevent the return of the difficulty. The diet should consist of ripe stewed fruits, rye pudding and molasses, milk porridge, &c. The parts should be washed with alum water, tea of oak bark, or smeared with some mild astringent ointment. The child should sit in a hard chair without a cushion. All other remedial means may fail and an operation ultimately be required.

RUPTURES. (*Bursts.*)

Ruptures sometimes exist at birth, and are sometimes produced by long and violent fits of crying, or by bandaging the abdomen too tightly. They consist of a portion of the bowel protruded through a hole in the walls of the abdomen, and covered by the skin. During crying the swelling is more prominent, and appears in the form of a rounded elastic tumor, which usually disappears when crying ceases and the muscles of the abdomen are relaxed. The bowel should be prevented from protruding by binding on some rounded body, as a piece of cork, wood or lead wrapped in a cloth : a piece of coin of proper size stitched into a bandage will often fulfil the indication. Ruptures occur oftener at the naval where the cord was attached, than at any other point. Whatever body is applied to the rupture, should

be wrapped in soft linen and kept clean and dry to prevent chafing and irritation: this means, with proper care to keep the bowels loose and the child quiet, will usually effect a cure in two or three weeks.

JAUNDICE.

It is not uncommon for infants a few days after birth, to become yellow over the whole surface, with dry skin, drowsiness and costiveness. In some instances there are irregular yellow blotches on the skin, attended with prickling and itching. The jaundice of infants may be removed by one or two doses of calomel and oil, warm bath daily, fresh air and gentle friction on the skin.

This disease may depend upon a slight inflammation of the liver, or upon inactivity or congestion of that organ; it is probable that it may also depend upon inflammation of the portion of the bowels called the "duodenum." In general there is but little danger attending this disease,—but some cases may prove obstinate and even fatal.

INCONTINENCE OF URINE.

This is a common disease among young children,—and is often the result of a careless and filthy habit of neglecting the calls of nature, and not endeavoring to restrain their desires. It usually occurs at night, the child allowing the urine to pass even while awake,

rather than to rise and evacuate the bladder. It is also caused by palsy of the bladder or some of its appendages, or by an irritable state of that organ. The discharge of urine is most apt to take place when the child is lying on his back : the urine is sometimes so caustic as to scald and irritate the legs and produce sores. Incontinence of urine is caused by the improper use of irritating medicines, certain articles of food, and by diseases of other parts of the body. The habit of incontinence although an unpleasant one, demands indulgence and pity, rather than blame and punishment in most cases. Children thus afflicted should not be allowed much drink or fluid food ; they should be desired to urinate immediately before retiring, and also to rise at stated hours of the night for the same purpose.

The best position in bed, in order to prevent involuntary discharges, is, on the side. The diet should be digestible and nutricious and the bowels regular,—the cold hip bath at night will be of service.

CONVULSIONS.

Convulsions may occur at any period of infancy, and during the course of almost any disease with which a child may be attacked. They are most commonly caused by irritation of the stomach and bowels, and congestion of the brain. Various parts of the body may be separately convulsed,—as the eyes,—muscles

of the face, extremities, organs of respiration, &c., there may also be general convulsions of the whole system. They are usually attended with foaming at the mouth, redness or blueness of the face, rolling of the eyes, difficult breathing, cold sweat on the face, head thrown backwards, back and neck stiff, grinding of the teeth, and sometimes involuntary evacuations. The violence and duration of the paroxysm varies,—sometimes passing off in a few minutes, and again continuing for hours. They are caused by raw and indigestible food, fruit, large draughts of cold water, close rooms, tight clothing, costiveness, fits of passion, improper medicines,—and all causes which derange the digestive apparatus, obstruct the respiration or circulation, or cause congestion of the lungs or brain. It is a dangerous disease among infants. When attacked, they should have fresh air, be freed from all tight clothing, the feet and legs immersed in warm water, and cold water applied to the head,—an emetic of ipecac should be given, and also an enema of warm milk and water with a little paragoric or laudanum. This treatment may be adopted until medical assistance can be obtained.

BREASTS INFLAMED.

Infants of both sexes are often attacked with a swelled and painful condition of the breasts: this usually occurs a day or two after birth, and subsides in a

few days without interference. There exists a vulgar error that this swelling is caused by the presence of milk in the breasts; they are therefore squeezed and drawn to remove the milk, which always aggravates the little patient's suffering, and sometimes produces severe inflammation and abscess. It is true that pressure on the breast causes a milky fluid to ooze from the nipple,—but this is not proper milk, nor does this disease depend entirely on its presence. All that is required in most cases, is to bathe the swelling in sweet oil occasionally;—or if there is much tenderness, a few leeches or a soft warm poultice will suffice to remove the swelling. All rude squeezing and attempts to draw the breasts, must be forbidden, and gentle friction with cream or oil, as before directed, be substituted.

SUSPENDED ANIMATION. (*Apparent Death.*)

Cases sometimes occur in which all the vital powers appear to be suspended,—the pulse is not perceptible, breathing is suspended, the senses are gone, the skin is cold and pale or purple, the eyes glassy or leaden. This condition is produced by hanging, drowning, strangling, respiring poisonous vapors, and by lightning, vapor of ether and electricity. When a person has been drowned or immersed for some time, although life appears to be extinct it is usually best to make some efforts to recover him. He should be immediately well

dried, wrapped in warm blankets, and friction applied to the skin.

Breathing may in many cases be restored by filling the lungs with air;—this may be done by blowing into the lungs with the breath or a common bellows, and at the same time closing the nose to prevent the air from returning. The lungs should be inflated very gradually, and as soon as they are full, gentle pressure should be made on the chest and abdomen so as to expel the air: artificial respiration should be kept up in this way until life is restored or all hopes are abandoned. The limbs should be gradually warmed by friction and warm water: when signs of life begin to appear, great caution is requisite to prevent sinking on one hand, and over excitement on the other. The patient should have fresh air, a little warm wine and water, and perfect rest and quiet.

Persons are sometimes suffocated by carbonic acid gas,—by sleeping in tight rooms containing several persons, or in rooms warmed by coal fires. When discovered in this state they should be removed to the fresh air, the clothes should be loosened, and the body supported in the erect posture; cold water dashed upon the head, face and breast, and the extremities well rubbed with some hot stimulating liquid: as soon as life is restored, a little warm wine and water may be given and the patient placed in bed.

These means, and all others sometimes fail; medical aid should therefore be obtained in all cases, as soon as possible.

MUMPS.

This disease is an inflammation of the *parotid gland*, which is situated just below the ear: it is contagious and seldom attacks the same person a second time. The first symptoms are chills, thirst, fever, stiffness and pain in the joint of the lower jaw, and slight headache; after a little time swelling commences under one or both ears, and soon a large, red, moveable tumor appears, which attains its largest size by the fourth or fifth day: it then begins gradually to disappear, and the other symptoms to abate; matteration seldom occurs. In cases of mumps, other parts sometimes sympathize with the inflamed parotid glands and the disease becomes more painful and occasionally proves fatal. This disease seldom attacks children under three or four years of age. The milder cases require little more than rest, low diet and mild laxatives,—the more severe ones require efficient medical treatment.

FELONS.

Children are very liable to some species of felon, which appear about the nails, or other parts of the hands and feet. They may be situated just under the skin, or

more deeply, and near the bone: The symptoms are, heat, pain, swelling, redness, and tenderness: they always incline to maturate,—and from the thickness and toughness of the structures in which they are sometimes situated, they are apt to spread over a considerable space before they break and discharge their contents. In severe cases violent, throbbing pain along the limb, fever, chills, and much swelling and pain in the affected part. Felons may be caused by bruises, pressure, or pricking by sharp instruments. The best treatment in the beginning, is a soft bread and milk poultice, mild cathartics and low diet. If it is situated deeply and it is found impossible to arrest its progress, a deep and free incision should be made: this gives relief, shortens the disease, and prevents the destruction of parts which must be consequent upon maturation: After the opening is made and bleeding stops, a poultice may be applied and the cure is soon perfected.

BOILS.

The general character of boils is too well known to require description: they are caused by disorder of the digestive organs, over heating the system, and the too frequent use of the cold bath: boys who bathe daily, and expose the skin to the rays of the sun, are liable to be afflicted with boils. The bowels should be regular, diet light, cold bath discontinued and the warm one sub-

stituted ; the boil may be poulticed until matter is formed and then freely opened, and covered with adhesive plaster.

WARTS AND CORNS.

The best and quickest mode of curing warts, is to cut them off a little deeper than the surrounding skin : they may be cured also by tying a thread tightly around them close to the skin and allowing them to slough off,—or by applying some caustic, such as "oil of vitriol," copperas, "aqua fortis" or "lunar caustic."

Corns are caused by the pressure of hard, tight shoes,—and consist of a hardening and thickening of the cuticle or outside skin. To cure them, the feet should first be soaked in warm water, and then apply a drop of aqua fortis to each corn, which will render them capable of being peeled or cleaved off, leaving the surrounding skin and that under them, tender and healthy,—to prevent them, keep the feet clean and wear loose, soft shoes.

BITES OF ANIMALS,—BITES AND STINGS OF INSECTS.

Children are sometimes stung or bitten by a bee, wasp, gnat, spider or bug, which causes much pain and swelling, and sometimes produces convulsions. The best remedies are the immediate application of a pledget of lint or cotton, wet in vinegar, hartshorn or onion juice to the wound, until the smarting is relieved

and then bathing the part in cold water. If faintness succeed, the head and face may be bathed in cold water and a little spirits or wine given.

The bites of venomous serpents, as the rattlesnake, hooded snake, viper and some others,—and also of venomous insects, such as the tarantula and scorpion, are more serious in their consequences. But as these animals do not exist in this country, no accidents will be likely to occur from them.

The bites of dogs, cats, rats and other small animals, should always receive attention, as they sometimes produce bad sores: they may be washed clean and covered with adhesive salve,—and if there is much pain and swelling, a bread and milk poultice should be applied.

The bites of rabid, (mad,) dogs and other animals, are usually followed by that terrible and fatal disease called hydrophobia: when this accident happens, the best medical aid must be immediately employed.

POISONS.

Any substance, which, when taken into the system, is capable suddenly or ultimately, of destroying life, may be called a poison. Some of the most serious accidents which are liable to befall children, and which require the most prompt relief, are cases of accidental poisoning. There are many substances used in the arts, and for domestic purposes, and also fruits, roots

and berries, which children are liable to eat or drink and become poisoned. When oil of vitriol or aqua fortis is swallowed,—some alkali, such as soda, salæratus, hartshorn, or even wood ashes and water should be instantly given to neutralize the acid. When any strong acid, as those named, be spilled upon any part of the surface, they should be washed away by warm water and soap, and the part poulticed. If common lye or hartshorn be swallowed, vinegar and water, sour cider or lemon juice should be drank freely,—or if these are not at hand, milk or some kind of oil may be substituted.

In cases of poisoning by mineral substances or vegetables, an emetic of ground mustard in water, or infusion of bonset, or whatever can be obtained, should be administered. In case no emetic can be had, large doses of oil, milk, whites of eggs, or even water may serve to prevent fatal effects. Poisoning by laudanum or opium, may be counteracted by vinegar, strong tea and coffee. These few remarks may serve to prevent loss of life in a few cases, but the treatment of most cases of posioning and the proper antidotes to various poisons, are known only to the physician,—medical aid therefore should always be obtained as early as possible.

CHILBLAINS AND FROST-BITES.

When the fingers, feet, nose or ears, are long exposed to severe cold, they become numb, livid or pale, stiff,

shrunken, motionless and cold: they are then frost bitten, or frozen. In this state they are so brittle as sometimes to be broken off, or severe inflammation, or mortification, (death,) of the part may ensue.

The first application should be friction with snow or cold water: and this should be continued until action, feeling and color are restored,—after which some warm stimulating liniment, camphor, or turpentine may be applied. The person frozen, should not come near the fire or into a warm room until the frozen part is restored. *Chilblains* are caused by warming any part which has been frozen, too suddenly.

The skin is red or livid, slightly swollen, and attended with pain and itchings; it may blister or ulcerate: when there are no blisters or ulcers, the remedies prescribed for frost bites are sufficient; if ulceration or mortification follow, warm poultices, mercurial ointment, &c. are required. When the exposure to cold has been such as to cause general numbness, sleepiness and loss of sense, no time should be lost in obtaining medical aid.

BURNS.

The injury produced by burns, is the same, whether by the agency of hot water, fire, or any solid heated substance. The danger of burns is to be estimated by their extent, severity and location. Burns which involve a large extent of surface, are more dangerous,

even if superficial, than those which are deeper and of less extent: they are more dangerous on the body and near vital parts, than they are when on the limbs. When they are slight, and only attended by redness and blistering, the application of lint or cotton wet with warm oil or turpentine or some mild salve, is all that is required. Although the application of cold relieves the pain sooner than heat, still it is considered by most surgeons, to be less favorable to the future healing of the sore than heat. When there are blisters, they may be opened after three or four hours, and as soon as the blistered surface ceases to discharge water, and becomes dry, it may be dressed with some soft mild ointment, and it will soon heal.

WOUNDS.

Wounds are usually divided into three classes,—viz. *Incised*, *Punctured*, and *Bruised*. Slight wounds, cut by a clean sharp instrument, require nothing more than to be bound up "in the blood" and left to heal; the blood in all cases forms the best dressing. Punctures, if slight, and made by a clean sharp instrument, as a fork, needle or nail, require similar treatment. Bruises, when slight, should be bathed in cold water, or when the skin is not broken, in spirits or liniment, and a pledget of lint wet in the same and laid on the wound. This will tend to prevent swelling and blueness, and relieve the pain.

When wounds are made by a rough and dirty substance, as a rusty iron, a stick or stone, they should be cleansed by clean soft water before dressing; if there is some bleeding, it may generally be arrested by cold water, alum water, or by binding on a compress made by folding a piece of linen tightly, and wetting it in cold water. When wounds are severe and extensive, if there is much bleeding, swelling, poison or foreign substances in the wound,—or if there is constitutional disturbance, as fainting, sleepiness, convulsions, or loss of sense, a surgeon should be called without delay.

CLUB FOOT.

This is a peculiar deformity of the foot, caused by contraction or shortening of some of the muscles, so as to cause the foot to turn inward or outward, upward or downward. The child will therefore walk on one side of the foot, or on the heel or toe, so that the sole of the foot does not come in contact with the ground. This deformity sometimes exists at birth, and is sometimes the result of disease or injury. Whatever the cause may be, most cases require a surgical operation, which affords the only prospect of a perfect cure.

WEAK ANKLES.

Children who are put upon their feet too young, or taught to turn their toes outward too much, or those who

are of a weak and relaxed muscular system, are apt to have weak and crooked ankles, or bowed legs. The soles of the feet are flat, the ankles turn inward so that the child walks almost on the ankle joint, and with lameness and difficulty. The general health should be improved by a good diet, cold bathing, and exercise in the open air: the child should also wear high boots made of leather sufficiently stiff to support the ankles in the proper form and position.

HARE LIP.

This is an opening or fissure in the upper lip, of greater or less extent, dividing it into two parts, and causing deformity and impediment in the speech: it sometimes extends back into the mouth so as to divide the roof of the mouth and palate, and render clear articulation impossible. The only cure is an operation, which should be performed between the sixth month and the second year of life.

STAMMERING.

This silly and disagreeable habit has excited much attention of late, on accont of the surgical operations and other means resorted to for its cure. It may be caused by spasms of the muscles of the tongue and throat while speaking,—or by muscular or nervous debility: it is probably however, caused in most cases by the vicious habit of mimicking others, or of talking too

rapidly. The operation of cutting and mutilating the muscles, is considered by the best surgeons to be useless and cruel, and worthy only of an age of barbarism. The most certain means of cure for the habit, is speaking slowly, and taking great care to articlate every word distinctly, and without embarrassment or diffidence.

SCROFULA.

This is a common disease of infancy and childhood, and is itself the cause of various forms of disease. It is difficult to give a brief, and at the same time correct and intelligible definition of this affection. In children of a scrofulous constitution, there is a deficiency of some of the elements of the blood; the white fluids and tissues of the system appear to predominate over the red, the organs are pale, soft and loose in texture, and perform their respective functions in a languid and imperfect manner. There are peculiar frailness and languor of the whole system,—the skin is thin and the veins beneath are visible, the joints large, chest contracted, fat sometimes in abundance, features round, hair fine and usually light colored, eyes prominent, lips thick, muscles soft and not well developed, limbs plump and round, but the flesh is soft and dropsical: the circulation is sluggish and weak, and fever is easily excited: digestion is usually slow and imperfect, the bowels torpid, and the whole system predisposed to take on

diseased action. Inflammations are slow in progress, and long continued, and there is a peculiar tendency to the formation to matter. There is no question that this disease is hereditary, and that children born of parents affected with it, inherit a similar constitution.

The causes which *predispose* to scrofula, are, disordered digestion, chronic disease, intemperance, luxury and indolence, premature marriage and the indulgence of the passions.

The *exciting* causes, or those which tend to develope scrofula, are, improper or deficient food, impure air, want of exercise and cleanliness, deficient clothing, exposure to cold and wet, and excessive depletion by bleeding and discharge from ulcers. Scrofulous children have usually more or less enlargement of the lymphatic glands about the neck, arm-pits and groins. These are hard, roundish, moveable tumors, destitute of pain or soreness during the first stage: if they become inflamed, they are swelled, painful, and nearly always ulcerate and discharge matter for a long time,—and when they heal, leave a rough white scar. Scrofulous sore eyes, inflammation and discharge from the ears, are common and difficult of cure.

The messenteric glands, (a part, or appendage of the bowels,) after those of the neck, are said to be most frequently enlarged and scrofulous. In scrofulous children, the bones are slow in attaining their strength

and solidity, the joints are loose, and disposed to "white swelling," and abscesses,—the spine is liable to distortion, and the limbs are liable to distortion and fracture. Tubercles of the lungs, constituting one form of consumption, are often present in scrofulous constitutions.

The treatment of scrofula is very uncertain in its results, and requires to be long persevered in,—some cases are incurable. Pure air, good diet, exercise, warm clothing, cleanliness, bathing, use of the flesh brush or hair glove, tonic and purifying medicines and the avoidance of all excesses, are principal remedies: the treatment however of this disease should be conducted under the direction of the physician.

RICKETS.

Rickets depend upon disordered nutrition, and some alteration of the blood from its healthy standard. It has usually, however, been supposed to depend upon a deficiency of phosphate and carbonate of lime in the food, to furnish the necessary earthy matter to the bones,—and has therefore been considered peculiarly a disease of the bones. But recent investigations show that it does sometimes occur when there is no deficiency of lime,—and that the whole system, particularly the muscles, brain and nerves, are equally implicated with the bones. It is an affection peculiar to childhood, and supposed to depend upon the action of the causes

which favor the development of scrofula. The signs of rickets are, a softened grisly state of the bones, large joints, large head, prominent forehead, straightness of the ribs and flatness of the sides of the chest, prominent breast bone, looseness of texture in the bones, crooked legs and distorted spine: many other symptoms of scrofula are sometimes also present. This, like scrofula, disposes the system to other diseases: the treatment of rickets is nearly the same as that of scrofula: rickets however is a more curable disease, and less apt to continue after adult age.

CHAPTER IV.

DISEASES OF THE SKIN.

MEASLES. (*Rubeola.*)

This is a contagious disease which seldom attacks an individual the second time: it is more common to childhood than adult age. It commences with more or less cough, fever, sneezing and running at the nose, chills, redness of the eyes and flow of tears. After two or three days, there is often vomiting, headache, sometimes high fever, delirium,—and in small children, convulsions. Usually between the third and fifth days, the eruption makes its appearance in the form of small red spots, on the breast and face,—and lastly, on the body and limbs. These spots resemble flea bites at first, but they soon enlarge, increase in number and run into each other and form irregular half-moon shaped patches. During the first day of the eruption there is a small water primple, (vesicle,) in the centre of some spots,—during the second day it is fully formed, and on the third day it begins to fade upon the face, but still remaining full upon the body: by the eighth or ninth day, the eruption has disappeared, and by the eleventh, thin scales of the cuticle fall off and the whole surface resumes its natural appearance. This is the course of

measles in mild cases,—but in the more severe cases, all the symptoms are augmented in violence, and give rise to several sources of danger, both during the attack and after its subsidence. Mild cases require but little treatment: rest within doors, cooling laxatives, low diet and cool drinks, usually suffice,—severe cases require a more active course.

SCARLET RASH. (*Roseola.*)

This consists of a rose or scarlet colored rash on the face, neck and breast, and sometimes over the whole body,—attended with some itching and tingling, and occasionally with restlessness, slight fever, redness and dryness of the throat. The rash usually begins to fade on the second day, and is gone on the fifth, without any peeling of the skin. It may be caused by heat, teething, stimulants and deranged digestion. It requires no care beyond that of regulating the diet, mild laxatives and the warm bath at night. It occurs in persons of all ages, and is sometimes carelessly mistaken for scarlet fever or measles.

CRUSTED TETTER. (*Impetigo.*)

This eruption appears in the form of brown or olive colored pimples, collected together or scattered over the surface, most often of the extremeties: they are accompanied by heat and smarting, and in two or three

days from the time of their formation, burst, discharge their contents and leave a red and shining surface, from which matter oozes and forms a crust: around the edges of this crust, new pustules often appear, which if neglected, increase till the limbs are almost incased with a rough scaly covering: this again cracks and throws out new matter, and thus continues until the hands and feet are so affected that the nails drop off. It seldom however, assumes this severe form. The milder cases generally yield to purges of calomel, sulphur, or epsom salts, with spare diet and warm bath: the more obstinate ones require more efficient means.

PRICKLY HEAT. (*Eczama.*)

An eruption of pearl or rose colored vesicles, preceded by itching and tingling: the delicate skin of children is peculiarly liable, from exposure to the sun, or from the friction of clothing, to attacks of this disease. The little vesicles sometimes appear between the fingers and may be mistaken for itch. In the course of six or eight days, the vesicles dry up and form their scabs, which fall off and leave the skin redder than natural. This variety of eczama is sometimes produced by the application of poultices, plasters and ointments to the skin. It may usually be cured by low diet, laxatives and washes made of bran, slippery elm bark, or the stingless nettle, or a weak solution of sugar of lead.

NETTLE RASH. (*Urticaria.*)

The eruption of nettle rash consists of inflamed red patches of irregular shape, on different parts of the body; sometimes they are few and of small extent, and at others covering a large portion of the surface. In the centre of each patch is an irregular white spot raised above the skin and attended with severe itching and smarting. In some varieties of this disease there is nausea, headache, chills and flashes of fever, and a white fur on the tongue. Nettle rash often disappears in a few hours,—and seldom continues more than six or eight days. It is caused by heat, poison from various weeds, as nettles, &c., and some kinds of food and fruits. Its treatment must depend on the intensity of the symptoms: in some cases, the remedies advised for prickly heat will be sufficient,—in others, a different course must be adopted.

CHICKEN POX. (*Varicella.*)

Chicken Pox is more common among children than adults: it commences with slight fever, which continues from one to three days, and is then followed by an eruption, which first appears on the face, neck and breast, and lastly on the extremeties. The vesicles come out in succession during three or four days,—so that some are entirely formed, and full of a watery fluid,

while others are just appearing, and others still are converted into scabs. The vesicles are attended with itching and burning;—they pass from the first stage to the time of falling off in three to nine days. Chicken pox may be communicated by inoculation, and rarely occurs more than once in the same individual. It seldom requires attention beyond spare diet, rest and mild cooling laxatives.

RING WORM. (*Herpes.*)

This consists of minute water blisters, arranged somewhat in rings: it begins with slight redness,—small blisters form and are filled with a colorless fluid;—these break in four or five days, and are covered by a thin brownish scab, which falls off about the eighth or ninth day, leaving a red surface which gradually disappears. The eruption seldom lasts more than ten days, but it sometimes appears a second time, and continues for several weeks: it is always attended with itching, smarting and burning. It often appears on the face, neck and arms of children,—and may be communicated by contact. A wash of white or blue vitriol, or nitrate of silver, or an ointment made of narrow dock root, will usually effect a cure.

ITCH. (*Psora.*)

Itch usually appears first between the fingers and on wrists, in small pimples filled with a colorless fluid, and

attended by intense itching, which is always increased by heat. The friction and scratching, used to allay the itching, ruptures the pimples, and they are by this means extended to the surrounding skin. In cases of long continuance, some of the vesicles become filled with matter and covered with brown scabs which extend over a great part of the body. This disease is contagious and is communicated by contact,—and probably sometimes produced by want of cleanliness and other causes. It seldom terminates spontaneously, but requires medical treatment: it is not dangerous, and "may continue during the life-time of the patient, which it seldom tends to shorten." It occurs most often among the miserably poor, and in cold damp situations. "In neglected cases, an insect is to be seen in or near the vesicles." It may be seen burrowing under the skin, and when removed by the point of a needle, resembles the "cheese skipper." Whether the disease is produced by this insect is not yet determined. Itch usually occurs in four or five days after exposure to its contagious matter. The best remedy in most cases, is sulphur: it may be mixed with molasses or lard, and applied night and morning to the parts affected: sulphur and cremor tartar, mixed with molasses may also be given in teaspoonful doses every night.

The diet should be simple and digestible, the bed and clothing of the patient kept perfectly clean and well

aired, and the whole surface of the body washed clean in soap and warm water twice a week, at evening before retiring.

SCALD HEAD. (*Porrigo.*)

This is one of the most loathsome and obstinate affections to which childhood is subject. There are several varieties of porrigo, of which the one to be described is probably the most common. It commences with a slight scaling up of the skin of the head, attended with itching; there is a slimy matter discharged from the surface, which dries and forms a scaly covering to the scalp: as the disease spreads, the scabs thicken, so that while the outside layers are dry and yellowish, resembling bran, those beneath and next to the head are moist with fluid: when the scab is removed, the skin presents a smooth, shining, pink colored appearance: the hair sometimes becomes matted together and small ulcers appear on the scalp: the disease is usually confined to the head, but sometimes extends to the face, neck and back,—it often exhales a disagreeable odor resembling that of sour milk. Scald head is so intractible it its character, that the best remedies must be long persevered in to effect a cure.

KINE POX. (*Vaccinna.*)

It is now well known that innoculation with the matter of *kine*, or "cow-pox," is an almost certain pre-

ventive of the contagious effects of small pox. In some few cases however, it fails,—but this should by no means prevent the innoculation of every child : it is thought by some authors, to lose its efficacy in a few years, so that a second or third vaccination may be necessary : this is however, doubtful. Children may be vaccinated at any age from three months upwards : but there is some difficulty in securing a thorough operation of the virus in very young children, or in those affected with any disease of the skin. The vaccine matter may be taken in the fluid state from the arm of another person, or a bit of the scab which has been preserved, may be used. Almost any mode of vaccination, which will secure the formation of a pustule, (pock,) will suffice. The usual mode is to raise a small piece of the skin on the arm, with the point of a lancet, and insert a little of the fluid or scab, and cover it with a piece of "court plaster." It is always best to make one or two pocks on each arm. About the third day after the vaccination, there is a red elevated pimple, which, on the fourth, is surrounded by a faint red circle,—on the fifth day there is a pearl colored pimple filled with transparent fluid,—on the eighth day the pock is at its height of development, at which time there is usually some fever, chills, lassitude and more or less pain and swelling of the arm and glands of the arm-pit : by the tenth day the pock is red and painful,—

on the eleventh it begins to shrink and assumes a darker color, so that by the fourteenth day it is covered by a thick, brown scab which falls off about the eighteenth day, leaving a white scar. No remedial care is necessary in most cases of vaccination: rest, low diet and regular action of the digestive organs, being all that is required.

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A few of the most common diseases of the skin, which occur in young children, have been briefly described,—and where the treatment required was simple and could be safely entrusted to nurses, it has been prescribed. Some of the most common and fatal diseases of this kind, such as scarlet fever, have been omitted, as their treatment should always be conducted by the physician.

CHAPTER V.

DIETARY FOR SICK PERSONS.

Attention to diet is indispensable in the treatment of all diseases: this is particularly true in reference to diseases of the digestive organs. In acute inflammations and fevers, there is usually no inclination to take food; on the contrary, most kinds are loathed,—so that there is little danger of committing any error. Diet-

ary rules are important in chronic diseases of the digestive organs, for the reason that the appetite is frequently unimpaired, and often, even increased, so that the patient is liable to indulge in excesses. In chronic local diseases, when the constitution is unimpaired and the appetite sharp, a moderate quantity of plain food is beneficial.

In most diseases, the appetite is a tolerably correct index to the kind and quantity of food which may be taken. Patients are often put unnecessarily upon low diet: "in fevers, when the patient can eat, he may usually do so; for if he has only a slight degree of fever, he cannot eat," and will therefore commit no error in this respect.

The Mode of Cookery, is important in the sick dietary. *Boiling*, is the mode best suited to dietary preparations for dyspeptics, convalescents and sick persons: this mode increases the digestibility, and lessens the nutritive qualities of most kinds of food. *Roasting*, next to boiling, is the best mode of cooking meats; these should be neither "rare" nor overdone: meat well done, and neither raw nor burnt, is the most nutricious and digestible. *Broiling*, effects the same changes in meat as roasting, and renders it more savory. *Baking*, is similar to roasting and broiling, but renders all foods less nutritive and digestible. *Frying*, is a mode in which no food should be cooked for sick or convalescent persons.

Times of Eating.—The habit of eating little and often is an erroneous one: fresh food should not be introduced into the stomach, until the digestion of the former meal is completed. Breakfast should be taken soon after rising; dinner, in from four to six hours after: no luncheon need be taken before dinner unless this meal is unusually late; for dyspeptics who dine late no supper is necessary.

The quantity eaten at one time, must be governed mostly by the sense of hunger and previous experience: patients should never eat to satiety, but always cease while a little appetite still remains. Several kinds of diet are designated by authors to be adopted by invalids, under various circumstances.

A full diet, is allowed in scrofula, some diseases of the nervous system, and convalescence from acute diseases. This diet consists of a liberal amount of animal, with other food,—and sometimes beer, wine or spirits.

An animal diet, consists of animal food, such as meat, fish, poultry, milk, butter and cheese: the only disease in which an exclusively animal diet is recommended, is diabetes.

A vegetable diet, exclusively, is never either necessary or proper, for adult persons.

A spare diet, consists mainly of vegetables combined with a little butcher's meat, white fish and poultry.

This is prescribed for plethoric persons, with a tendency to congestions, apoplexy and gout.

A fever diet, consists mostly of gruels, broths, teas and jellies : it should always be in the fluid form, as solid food is inadmissible in fevers.

A low diet, should be adopted in acute inflammations of important organs,—after severe injuries, surgical operations and accouchment : it is similar to the fever diet, with the addition of milk, buscuit, and light puddings.

A milk diet, includes, besides milk, arrow root, sago, rice, biscuit and light puddings : it is well adapted to inflammatory diseases of the chest, chronic diseases of the bladder and bowels, and after great losses of blood.

A dry diet, is beneficial in diabetes, diuresis, valvular diseases of the heart, and cases in which it is necessary to diminish the amount of fluids taken.

Particular courses of diet are prescribed for the insane, the pauper, and the convict, but they need not be detailed here. Rotation or change, from one kind of diet to another, is often beneficial, but limits will not admit of further remarks on this subject.

This brief sketch of dietary principles, is condensed from Doct. Pereira's work on "Food and Diet." We give below, a few of the most common and important dietary preparations for the sick.

DIETARY PREPARATIONS.

Oaten Gruel.—Boil two tablespoonfuls of sifted oat meal in one quart of water for ten minutes,—then add a teaspoonful of salt, one of wine, one of lemon juice, and a little nutmeg.

Indian Gruel.—Boil two tablespoonfuls of indian meal in one quart of water for twenty minutes,—add salt, sugar and nutmeg, or lemon to suit the taste.

Sweet Corn Gruel.—Boil three tablespoonfuls of dried sweet corn in one quart of water for half an hour, —season with salt and strain through linen.

Sago Milk.—Soak a teaspoonful of sago in a pint of cold water one hour,—pour off the water and boil the sago in a pint and a half of milk fifteen minutes, stirring constantly ;—season with salt, sugar, ginger or nutmeg, and sometimes wine.

Sago Mucilage.—Soak a tablespoonful of sago, in a pint of warm water two hours, then boil the same fifteen minutes stirring constantly ;—season with salt, lemon juice, sugar, nutmeg and wine. Arrow root and tapioca may be prepared in the same way as sago.

Beef Tea.—Cut one pound of lean fresh beef into shreds, and boil in one quart of water for twenty minutes,—add one teaspoonful of salt and strain thro' linen.

Mutton Broth.—Boil the same quantity of lean fresh mutton and water as above, for one hour,—add a few crusts of bread, season with salt and parsley and strain.

Milk Porridge.—Boil one pint of water, and one of milk; add one tablespoonful of wheat flour made into a thin paste, season with salt and boil five minutes.

Oyster Soup.—Boil four oysters in one pint of water for five minutes, add one small cracker and a little salt.

Barley Water.—Boil two ounces of pearl barley in one quart of water down to one pint,—season with salt, lemon and sugar, and strain through linen.

Apple Tea.—Boil a middle sized sour apple in one pint of water, strain and sweeten with white sugar. Peach tea may be made in the same way after removing the stone.

Wine Whey.—Boil one pint of new milk, and while boiling, add a large wine glass full of sherry or madeira wine,—let it boil a few minutes, remove it from the fire, let it cool a few minutes, then strain from the curd and sweeten with white sugar.

Tamarind Water.—Boil six tamarinds in one pint of water for ten minutes, and strain through linen.

Currant Water.—Boil equal quantities of currant juice and water, a few minutes; strain through flannel and season with orange peel and loaf sugar. Cherry water, may be made in the same way.

Chicken Water.—Take half a chicken, remove the fat, break the bones and boil in two quarts of water for half an hour,—add two teaspoonfuls of salt and strain through linen.

Lemonade.—To one pint of water, add the juice of one lemon and the beaten whites of two eggs, and sweeten with white sugar.

Orange Jelly.—Squeeze the juice from six oranges and half a lemon, add half a pound of white sugar, half a pint of water, boil and strain through flannel, then add one ounce of isinglass, and when this is well dissolved put it into a mould or dish to cool.

Biscuit Jelly.—Soak one biscuit or Boston cracker in one pint of water, boil and add white sugar, wine and nutmeg or lemon to the taste.

Sago Jelly.—Soak two tablespoonfuls of sago in water one hour,—pour off the water and boil the sago in half a pint of water until it is transparent, then season with salt, lemon, wine and sugar to the taste.

Tapioca Jelly.—Soak the tapioca eight hours and then prepare like sago jelly.

Isinglass Jelly.—Boil two ounces of isinglass in one quart of water down to one pint and add one ounce white lemon candy.

Rice Jelly.—Boil three tablespoonfuls of rice and three of white sugar, in just sufficient water to cover it until it becomes a jelly, and season to the taste.

Calves' feet Jelly.—Boil one calf's foot in two quarts of water till reduced to one pint,—strain, and when cold skim carefully and add one teaspoonful of salt, the whites of three eggs beaten with four ounces of

white sugar, one gill of wine, and the juice of two lemons,—boil the whole, stirring constantly for four minutes, then strain through flannel.

Moss Jelly.—Soak half an ounce of Irish moss a few minutes in cold water, then drain it off and boil it in one quart of water until it becomes a jelly,—strain, and season with cinnamon, wine and white sugar.

Rice Pudding.—Boil one teacupful of soaked rice in one quart of milk,—then add two tablespoonfuls of white sugar and one egg beaten together, and one teaspoonful of salt—bake one hour.

Milk Toast.—Toast a thin slice of wheaten bread slightly brown,—pour on to it some boiling milk, and season with nutmeg and salt.

Boston Cracker Toast.—Split Boston Crackers, toast them brown, pour on boiling water and drain it off, then season with butter, sugar, lemon juice and nutmeg or orange peel.

Broiled Meat.—Broil the lean round or surloin of beef or mutton on the coals until tender, and season with salt or tomato ketchup.

Boiled Eggs.—Boil eggs until the white is partly cooked, and the yolk slightly turned, remove from the shell and season with salt.

Roast Potatoes.—Roast pink-eyed potatoes in the fire until well done, remove the outside crust, mash and season with salt and cream.

Panada.—Pour boiling water on toasted bread, and season with butter, white sugar, lemon and nutmeg.

Boiled Custard.—Beat one egg in one pint of milk, add salt and sugar to the taste and boil two minutes.

Starch Pudding.—To one pint of boiling milk, add two tablespoonfuls of starch and one egg beaten together,—season with sugar, salt, wine and nutmeg and boil one minute.

Rice Caudle.—Make a paste of two tablespoonfuls of ground rice in a little cold water, boil in one pint of water and season with salt and nutmeg.

Dyspepsia Bread.—Mix together three quarts of unbolted wheat flour, one quart of warm water, one gill of fresh yeast, one gill of molasses and two teaspoonfuls of salt,—let it rise, and bake.

CHAPTER VI.

MORAL TREATNENT OF CHILDREN.

By *moral treatment*, we mean the training and developing of all the moral and intellectual powers, and the restraining and directing of the sentiments and passions.

During the period of infancy and childhood, the animal appetites, propensities, and passions, predominate in action, over the moral and intellectual powers. This

want of balance to control and direct the moral characters of children, renders it indispensable to their proper formation, that judicious training and proper example should exist in every family. A cheerful disposition, and a mind in which all the powers are properly employed, and the sentiments gratified to a reasonable extent, tends powerfully to the promotion of physical health and enjoyment. Habitual peevishness and dissatisfaction are almost always productive of physical disease. The passions, anger, jealousy, fear, contention, envy, revenge, obstinacy, pride, despondency, avarice and dishonesty ; if not counteracted by judicious and prompt restraint,—instead of being increased by neglect and excitement,—destroy the present comfort and health of the child, and produce lasting ruin to the whole after period of existence.

In many cases, the entire nursery discipline tends to rouse to action the worst passions of the child, rather than to direct them so as to give that energy and propelling power to the character, which is their legitimate province. At one time he is fondled and flattered, and at another beaten,—and both for the same purpose. This treatment not only stimulates and inflames the very passions it is intended to quell,—but shows to the child that the parent has no fixed rule or principle in his government, and acts only from passion and impulse. Very young children will soon get the impres-

sion from such conduct, that the parent has no confidence in the justice of his administration, and that paternal rule is only a system of tyranny : he consequently disregards commands, holds authority in contempt, and seeks every opportunity of disobedience and retaliation. A child whose most innocent desires are constantly thwarted, whose joyous spirits are frozen by the frown of an austere parent, whose buoyant aspirations are checked by disapproval, soon becomes discouraged, sullen and obstinate,—and disposed to gratify his inclinations by slyness and stealth, even at the risk of punishment ; rather than to suffer the pain of a restraint which his own innate judgment tells him is unjust.

The habit of addressing children in a harsh and unkind manner ; or of teasing and irritating them merely for sport, tends to alienate their affections and destroy paternal dignity, influence and respect.

Care must be taken not to mistake the real wants and discomforts of children, for whims and caprices,—nor their inability to obey, for obstinacy and wilfulness. Real wants should always be supplied, the slightest pains alleviated, and innocent desires, to a reasonable extent, gratified : but irritability should be allayed by gentle and soothing, but firm treatment, and obstinacy resolutely subdued. Children should never be hired or coaxed to comply with the request of a parent ; nor should they when disappointed or hurt, be consoled and

hushed by expressions of extreme pity ; nothing tends more to encourage an exacting, complaining disposition, and a habit of fretfulness from slight causes.

The delicate and impressible nervous system of children, renders them liable to injury from causes apparently insignificant: thus, a loud sound, a harsh tone of voice, a rude shake, a severe blow, a forbidding angry look, an uncouth object, or sudden rousing from sleep, may produce convulsions, spasms, idocy or mania. Although these causes might fall upon the constitution of the adult almost unnoticed ; still the alarm expressed by every feature, the agitation of the whole body, the fluttering heart and the piercing shrieks, prove them to be too intense for the delicate organism of the child.

The gambols and loquacity of childhood, are impulsive and irresistible,—and the result of a joyous overflow of spirits, which they cannot suppress nor others control. And however improper or silly their conduct may appear to the grave and tranquil mind of age and wisdom,—yet if this native fire of youth be constantly smothered by frowns and restraint ; it will smoulder in the system till the mental energies are palsied,—or it will burst forth into a disease which will ultimately consume the whole physical fabric.

No greater error can be committed than that of overtaxing the *powers of* the *mind* by too early and intense

application to study. Even in children possessing a peculiar aptitude for learning, and of precocious talents ;—these ill-directed efforts, only exhaust the feeble growing powers of the mind, and deprive it of that energy, and depth, which if allowed to develope itself spontaneously, it might attain. *Children who manifest great procosity of mind, show a condition of the brain bordering on disease :* and this, by intense application to subjects two vast and difficult for their comprehension, may, and sometimes does, result in mania or imbecility. The child may be talented, and the parent vain ; he flatters and urges the little student to severe mental labor, by appeals to every passion ; vainly hoping to produce to the world an infant philosopher,—until by extreme mental tension, the powers give way, and the former prodigy becomes a drivelling idiot. With such children, no positive attempts should be made to cultivate the mind while young ; their patience should not be taxed, their memories burdened, nor their bodies confined. But their school hours should be abridged, their spirits free ; and parents should be content, with their learning voluntarily, such promiscuous ideas as come incidentally within their observation.

The education of the *moral powers*, however, should be commenced much earlier, and may be continued with less danger of injury from over exertion. In developing and directing this class of faculties, nothing is

so important as proper example; for without this, in connexion with practical exercise of these powers, all the moral teaching that can be bestowed, will be a mere nullity. What avails it to tell a child to be virtuous, and then give the lie to our injunction by our own vicious conduct. The parent will almost always be reflected in the child,—and he has no right to expect a better course of conduct in his child, than he daily teaches, both by his counsel and example. If we would have a child liberal and benevolent, instead of sordid and avaricious,—we must furnish him means, and give him frequent opportunities of relieving distress and want: if we would have him honest, we must be scrupulously exact in all our dealings before him: if we desire to cultivate in him a mild and pacific temper, we must ourselves be a pattern of such a character. Every incident should be made available to inculcate some moral lesson.

Children copy with wonderful ease and facility, the manners and habits of seniors and superiors, and their influence over them is immense, even when unsuspected.

A child playing unobserved in a corner, may hear a word or see an action, which may affect his moral character to the end of life. There can be no question that children, according to the influences by which they are surrounded, are equally inclined to good or

evil: thus their first lispings may be falsehood and profanity, and their first acts criminal,—or they may be the reverse. Hence, the fearful and vast responsibility, of assuming the rearing and direction of an immortal being, whose every emotion is to tell on his future destiny, either for weal or for woe.

The *perceptive faculties* are another class of powers which may be early brought into action by presenting to them the objects which constitute their proper stimulus. They are the first of the knowing powers which are manifested, and are usually active at an early period: they take cognixance of the physical properties of bodies, and their relations and phenomena. A large amount of useful knowledge may be acquired by the child, without overtaxing or fatiguing his mind, by carefully directing it to familiar and interesting objects and phenomena. The various styles of architecture, machinery, and other works of art,—the different branches of natural history,—commerce, &c.,—all furnish amusing and important facts, which may be imperceptibly attained by children, without effort, or the idea of its being laborious,—as confinement to study always is. In this way they may soon be able to trace the connexion between cause and effect, admire the harmony and order of nature, and perceive the uses and advantages of science. This kind of mental exercise allures the youthful student forth into "the garden's

cultured walks; o'er grassy fields; through flowery meads; along the river's brink; amid the silence of the forest shade; upon the hill side; or by old ocean's shore,"—where every object lends enchantment to the scene, affords pleasure without alloy, and prepares the mind for higher and more sublime achievements. It is to be regretted, that so small a part of education is devoted to the natural sciences, which are easily learned, and so proper for experimental study and personal observation. The mind is educated from books, and receives its impressions through the medium of other minds: the erudition of books, dwells in the memory untenable and obscure,—instead of being fixed vividly and indelibly, as is always done by the conclusions of actual experiment. The knowledge is foreign and borrowed,—original investigation is rejected,—the mental resources rest upon authority,—and the education at best, is but a poor transcript of other minds equally liable to error.

"Exact knowledge consists in those things which can be seen and demonstrated; while in all knowledge of inferience there is progression. Nature is always perfect and unvarying,—but man's knowledge is progressive; consequently, in every advance he arrives nearer the truth,—and yet, as far from knowing all nature and her laws, as he is from infinity." When shall mankind *universally*, become *thinking* beings?

When shall they rise from beneath the crushing influence of *precedent;* spurn the obligations of *authority*, and burst the shackles of a *scholastic dogmatism?* When shall they rise superior to mere *physical existences*, and assert the legitimate prerogatives of beings who were "created a little lower than the angels?" This auspicious day, though far distant beyond our time, is destined to dawn upon the earth with transcendent spiritual and intellectual glory.

"Ah could the muse, with prescient pen reveal,
All which thy clouds, FUTURITY, conceal;
All that remote posterity shall know,
How bright, how dazzling would the picture grow.
Yes, soon the soul's imprisonment shall cease,
For HE who ransomed, will ere long release,—
Soon shall she drop her shackles, and arise,
Buoyant and fearless to her native skies."

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